



US Army Corps
of Engineers
Waterways Experiment
Station

AD-A270 211



Contract Report EL-93-3
September 1993

2

Legacy Resource Management Program

Final Report: Education, Public Access, and Outdoor Recreation

by *Walter H. Bumgardner*
University of Southern Mississippi

DTIC
ELECTE
OCT 06 1993
S A D

Approved For Public Release; Distribution Is Unlimited

93-23108



7808

Prepared for Office of the Deputy Assistant Secretary
of Defense for the Environment

0 0 1 0 1 2 1 2

The contents of this report are not to be used for advertising, publication, or promotional purposes. Citation of trade names does not constitute an official endorsement or approval of the use of such commercial products.



PRINTED ON RECYCLED PAPER

Legacy Resource
Management Program

Contract Report EL-93-3
September 1993

Final Report: Education, Public Access, and Outdoor Recreation

by Walter H. Bumgardner

School of Human Performance and Recreation
University of Southern Mississippi
Hattiesburg, MS 39405-5142

Final report

Approved for public release; distribution is unlimited

Accession For	
NTIS	GRAM
DTIC	TAB
Unpublished	
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

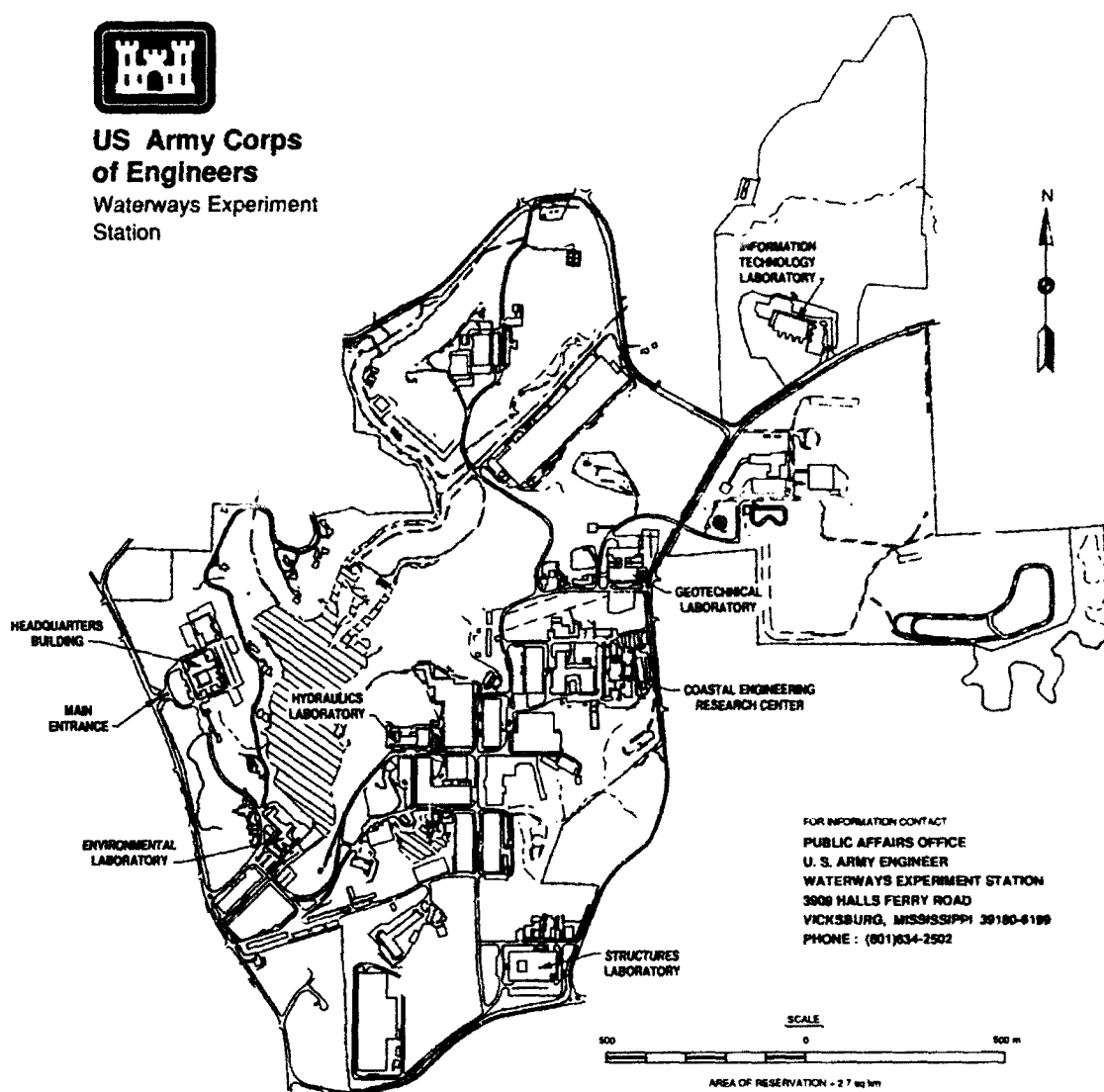
DTIC QUALITY INSPECTED 3

Prepared for U.S. Department of Defense
Office of the Deputy Assistant Secretary
of Defense for the Environment
Washington, DC 22202

Monitored by Environmental Laboratory
U.S. Army Engineer Waterways Experiment Station
3909 Halls Ferry Road, Vicksburg, MS 39180-6199



**US Army Corps
of Engineers**
Waterways Experiment
Station



FOR INFORMATION CONTACT
PUBLIC AFFAIRS OFFICE
U. S. ARMY ENGINEER
WATERWAYS EXPERIMENT STATION
3900 HALLS FERRY ROAD
VICKSBURG, MISSISSIPPI 39180-6199
PHONE : (801)634-2502

Waterways Experiment Station Cataloging-In-Publication Data

Bumgardner, Walter H.

Final report: education, public access, and outdoor recreation / by Walter H. Bumgardner ; prepared for U.S. Department of Defense, Office of the Deputy Assistant Secretary of Defense for the Environment ; monitored by Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station.

74 p. : ill. ; 28 cm. — (Contract report ; EL-93-3)

Includes bibliographical references.

1. Cultural property, Protection of — United States. 2. Outdoor recreation — United States. 3. Natural areas — United States. 4. Public lands — United States. I. United States. Office of the Deputy Assistant Secretary of Defense (Environment). II. U.S. Army Engineer Waterways Experiment Station. III. Legacy Resource Management Program. IV. Title. V. Title: Education, public access, and outdoor recreation. VI. Series: Contract report (U.S. Army Engineer Waterways Experiment Station) ; EL-93-3.

TA7 W34c: no.EL-93-3

TABLE OF CONTENTS

PART I:	INTRODUCTION	1
	Objectives	2
PART II:	PROCEDURES	3
PART III:	FINDINGS	5
	Authority and Access	5
	Resources and Activities	12
	Mandated Access	17
	Native American Access	20
	Public Awareness, Public Relations, and User Information	28
	Legal Liability	37
	Conceptual Frameworks	41
	Non-DoD Federal Land Management Agency Policies	47
	National Park Service	47
	Bureau of Land Management	48
	Forest Service	49
	Fish and Wildlife Service	49
	Bureau of Reclamation	50
PART IV:	SUMMARY AND CONCLUSIONS	52
	Authority and Access	52
	Resources and Activities	53
	Mandated Access	54
	Native American Access	55
	Public Awareness, Public Relations, Education, and User Information	55
	Legal Liabilities	56
	Conceptual Frameworks	56
	Non-DoD Federal Management Policies	57
PART V:	RECOMMENDATION	58
	Authority and Access	58
	Resources and Activities	58
	Mandated Access	59
	Native American Access and Issues	59
	Public Awareness, Public Relations, Education, and User Information	60
	Legal Liabilities	61
	Conceptual Frameworks	61
	Non-DoD Federal Management Policies	62
PART VI:	REFERENCES	63

SF 298

LIST OF TABLES

<u>No.</u>		<u>Page</u>
1.	Summary of Scores of Criteria Air Force Commanders Consider Important in Allowing Non-DoD Civilian Usage of Recreational Facilities	16

LIST OF FIGURES

<u>No.</u>		
1.	Proposed Model for Developing a Public Education and Information Program for Ecosystem Management of Eglin Air Force Base	33

PREFACE

The report herein was prepared as part of the Education, Public Awareness, and Outdoor Recreation Task Area of the Department of Defense Legacy Resource Management Program. The overall program is managed by the Office of the Deputy Assistant Secretary of Defense for the Environment, with administration by the U.S. Army Engineering and Housing Support Center Natural and Cultural Resources Division. The Education, Public Awareness, and Outdoor Recreation Task Area is managed at the U.S. Army Engineer Waterways Experiment Station (WES). Mr. Michael R. Waring, Stewardship Branch (SB), Natural Resources Division (NRD), Environmental Laboratory (EL), WES, is the Task Area Manager.

Dr. Walter H. Bumgardner, School of Human Performance and Recreation, University of Southern Mississippi, Hattiesburg, MS, prepared this report. Technical review was provided by Dr. Paul R. Nickens, Resource Analysis Branch (RAB), NRD, and Dr. Kent C. Jensen, SB. General supervision was provided by Mr. Roger Hamilton, Chief, RAB; Mr. Chester O. Martin, Acting Chief, SB; Mr. J. L. Decell, Acting Chief, NRD; and Dr. John Harrison, Director, EL.

At the time of publication of this report, Director of WES was Dr. Robert W. Whalin. Commander was COL Bruce K. Howard, EN.

This report should be cited as follows:

Bumgardner, W. H. (1993). "Final report: Education, public access, and outdoor recreation," Contract Report EL-93-3, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

DEPARTMENT OF DEFENSE
LEGACY RESOURCE MANAGEMENT PROGRAM
EDUCATION, PUBLIC AWARENESS, AND RECREATION

PART I: INTRODUCTION

1. The Department of Defense (DoD) is the custodian of nearly 25 million acres of land and water (DoD 1989) containing valuable natural and historical resources. This makes it the fifth largest federal land management agency. In recent years DoD and Congress have become increasingly concerned with the overall management of natural and cultural resources on the nation's 631 military installations. In 1989, Secretary of Defense Richard Cheney issued a memorandum to the secretaries of the military departments in which he stated that he wanted, "the Department of Defense to be the federal leader in agency environmental compliance and protection" (Cheney 1989). Congress (1990) then established the Legacy Resource Management Program (LRMP) through the Defense Appropriations Act of 1991 (Public Law 101-511) to further address these issues. The program was established under the auspices of the Office, Deputy Assistant Secretary of Defense for Environment. Its primary goal was to support enhanced management of DoD natural and cultural resources. Additionally, the program was charged with establishing educational, public access, and recreation programs designed to increase public appreciation, awareness and support for DoD environmental initiatives.

2. Because of the rapidly growing demand for recreation on other public as well as private lands, there was an increase in Congressional support for natural resource enhancement on military installations. The Task Force on Recreation on Private lands reported in 1986 that "projections of overall recreation demand made in 1962 for the year 2000 were reached in 1980." Given ongoing limitations in the national budget, increasing public recreational access to existing military reservations as well as making similar use of

those being closed may become one of the primary means of increasing the nation's inventory of publicly accessible outdoor recreation resources.

3. To accomplish Legacy's objectives, the DASD (Environment) formed a Legacy Steering Committee having oversight responsibilities for the program. A Legacy Planning Team was formed to develop detailed plans for the implementation of the program. Meetings and deliberations conducted early in 1991 by the Planning Team resulted in the United States Army Corps of Engineers, Waterways Experiment Station (WES) being assigned responsibility for developing frameworks to enhance the management of biological, cultural, and geophysical resources on DoD lands. This was to ensure that public awareness, access, education, and recreation are fully integrated in the stewardship of these resources. The findings, conclusions and recommendations resulting from the WES task are contained here-in. These develop an understanding of, and framework for, educational, public access, and recreation programs that affect public appreciation, awareness, and support for Legacy initiatives.

Objectives:

4. The objectives of this task were:
 - a. Determine resources and activities providing existing or potential access to the public.
 - b. Determine what access is mandated, e.g. access by fish and wildlife management agencies.
 - c. Determine the effectiveness of current public relations, educational, and access programs. Program shortfalls and opportunities for improvement are to be identified.
 - d. Identify legal liabilities and potential methods for minimizing liability associated with providing access.
 - e. Develop a conceptual framework for increasing: (1) public awareness, (2) educational programs relative to DoD resources, (3) public access, and (4) programs to increase public use of DoD resources.

- f. Address issues related to Native American access on DoD installations concerning the use of natural resources for hunting, fishing, and outdoor recreation.

PART II: PROCEDURES

5. Information was gathered by interviewing individuals knowledgeable of DoD natural resources management policies. During the period 16-20 March 1992 interviews were conducted with the following individuals in Washington, DC.:

L. Peter Boice, Deputy for Natural Resources
Office of the Secretary of Defense
Ludlow E. Clark, Chief of Natural and Cultural Resources
Department of the Air Force
Tom Coda, Program Analyst, Natural Resources Section
Marine Corps
Lew Shotton, Chief of Natural and Cultural Resources
Department of the Navy
J. Douglas Ripley, Natural Resources Research Associate
Department of the Army
Alicia Ridell, Outdoor Recreation Planner
National Park Service
George H. Siehl, Specialist in Natural Resources Policy
Congressional Research Service, The Library of Congress

These individuals provided valuable, time-saving insights, and personal observations on information pertaining to DoD natural resources management policies, programs, procedures, directives, regulations, public laws, issues, etc.

6. During the period 18-21 May 1992, a LEGACY workshop was conducted by WES in Denver, Co, with 36 individuals, most of whom were installation level natural resource managers. Additionally, state and federal representatives were present including personnel from the National Park Service (NPS) and the U.S. Fish and Wildlife Service (USFWS). The workshop encouraged creative thinking and open discussion about potential improvements in DoD's natural resource management programs, including initiatives for improving public participation and access.

7. Much of this study involved a literature search conducted principally through reviewing data bases and contacting personal referrals. The most productive search was

through the National Technical Information Service (NTIS) which revealed 23 applicable publications. Searches conducted through the U.S. General Accounting Office (GAO) Index of Reports and Testimony, and the U.S. Fish and Wildlife Reference Service yielded 5 relevant references. The National Recreation and Park Association's SCHOLE Network research library also produced useful sources of information. Legal cases cited in the paper were identified through a search of the West Publishing Legal Company Data Base (WESTLAW). Policy manuals and related materials of the major Federal land management agencies (NPS, U.S. Forest Service (USFS), Bureau of Land Management (BLM), USFWS, and the Bureau of Reclamation (BOR) were also reviewed for information relevant to this task. The attempt here was not to expound on everything contained therein, rather to identify some of the more salient items of information that may be useful in further development of DoD's Legacy program.

8. Letters were sent July 16, 1992 to all state Fish and Game Agency directors requesting information concerning military installation accessibility by agency personnel. Thirty-four states initially responded; on September 18, 1992 a follow-up request was sent to non-respondents. In total, 42 (81%) of the states responded. Letters also were sent on July 16, 1992 to the seven regional directors of the USFWS requesting information on cooperative agreements with military installations and accessibility by agency personnel. Responses were received from each.

9. Natural resources programs were discussed between 14 July and 3 November, 1992, with installation managers during personal on-site reviews of natural resource areas and facilities at Camp Shelby, MS, Eglin Air Force Base, FL, Pensacola Naval Air Station, FL, and Ft. Polk, LA, Ft. Lewis, WA, and Vandenberg Air Force Base, CA. Resources managers provided useful information during these trips relating to similarities and differences in local approaches to natural resources management, outdoor recreation issues and concerns, information on public relations, education, safety, security, etc. Referrals also were received on additional documentary sources and personal contacts.

10. The author attended the "KEEPERS OF THE TREASURERS," an annual meeting of Native Americans, hosted this year by the Confederated Salish and Kootenai

Indian Tribes, 19-23 October 1992, at the Flathead Indian Reservation in Polson, Montana. Information and insight were gained at the conference relative to Native American cultures, values, religions, beliefs, etc. Personal contacts were expanded and informational sources were identified for Native American access requirements to military lands for cultural, religious, and subsistence needs. Participation in a meeting of the Native American Fish and Wildlife Society, South and Eastern Regional Conference, October 28, 1992, at Biloxi, MS provided additional insight to Native American concerns on tribal management of natural resources. Development of a Native American Policy by the USFWS, and efforts by USFWS personnel to gain increased public compliance with fish and game laws were also discussed.

11. Data were obtained from a DoD Legacy Program Survey of Natural and Cultural Resources Programs, hereafter referred to as the 1992 DoD SNCRP, June 1, 1992, conducted through the Office of the DASD (Environment). In the survey, 481 questionnaires were distributed; 208 were returned for a 43.2% response rate. Data from the DoD SNCRP pertinent to the objectives of this study are reported in this document.

12. Visits to regional offices of the USFS and BLM, Jackson, MS, and letters sent to directors of the nation's major land management agencies -- USFS, BLM, NPS, BOR, USFWS, provided policy information for review concerning public relations, education, access, and user policies.

PART III: FINDINGS

Authority and Access

13. Identification of the authority and guidance for provision of public access and engagement in outdoor recreation on military installations was the first objective of the literature search. The Department of Defense derives basic natural resource management authority from several United States Codes. DoD Directive 4700.4, Natural Resources Management Program (1989), provides authority for conducting natural resources management programs. The following are most important to the provision of outdoor recreation:

- a. Title 16, United States Code of Federal Regulations (CFR), Section 460 L "Outdoor Recreation Programs."

Section 460 L contains basic authority emanating from Congressional policy declaring that all Americans should be assured adequate outdoor recreation resources and all levels of government should conserve, develop, and utilize such resources for the benefit and enjoyment of the American people.

- b. Title 16, CFR, Section 670 et seq. "Conservation Programs on Military Installations," (Sikes Act) as amended.

Section 670 c specifies authorization of the Secretary of Defense to carry out a program for the development, enhancement, operation, and maintenance of public outdoor recreation resources at military reservations in accordance with a cooperative plan mutually agreed upon by the Secretary of Defense and the Secretary of the Interior, in consultation with the appropriate State agency designated by the State in which such reservations are located. Section 670 a-1.(a) directs the Secretary of each military department to manage the natural resources of each military reservation within the United States that is under the jurisdiction of the Secretary so as (1) to provide for sustained multipurpose uses of those resources; and (2) provide the public access that is necessary or appropriate for those uses; to the extent that those uses and that access are not inconsistent with the military mission of the reservation.

- c. Title 10, CFR, Section 2671, "Hunting, Fishing and Trapping on Military Lands."
- c-1. Section 2671(a)(2) establishes the requirement for appropriate licenses for individuals hunting, fishing, or trapping on military installations or facilities.
- c-2. Section 2671(a)(3) provides for full access by State or Territory fish, game, or conservation officials to military installations or facilities to effect measures for the management, conservation, and harvesting of fish and game resources.

14. DoD Directive 4700.4 prescribes policies and procedures for an integrated program for multiple-use management of natural resources on property under DoD control.

- a. Section D (7) specifies that DoD lands shall be available to the public and DoD employees for enjoyment and use of natural resources, except when specific determination has been made that a military mission prevents such access for safety or security reasons or that the natural resources will not support such usage. To assist in the management, study or monitoring of natural resources, federal, state and local officials and natural resources management professionals shall be permitted access to natural resources after proper safety and security measures are taken.
- b. Enclosure 3 (4)d, DoD Directive 4700.4, specifies that public outdoor recreation opportunities shall be equitably distributed by impartial procedures, such as first-come, first served basis or by drawing lots. The natural resources management plan shall explain when public access must be withheld. User fees may be collected to recover expenses of managing natural resources for outdoor recreation, and access quotas may be established to reflect the carrying capacity of the areas involved.
- c. Enclosure 3 (4)f, DoD Directive 4700.4, points out that whenever appropriate, outdoor recreation plans shall address inventories, trends, management of resources suitable for outdoor recreation, aesthetics, development of opportunities and potential uses, potential user groups and access policy, user fee programs, user ethics programs, and multiple use management.

15. The following Army, Navy, Air Force, and Marine Corps (hereafter referred to collectively as "the Services") regulations derived from public laws, executive orders, and DoD Directives provide operational policies and procedures on the Services' natural resources management programs.

- a. AF Regulation 126-1, "Conservation and Management of Natural Resources," 21 October 1988.
- b. Army Regulation 420-74, "Natural Resources--Land, Forest, and Wildlife Management," 25 February 1986.
- c. OPNAVINST 5090.1A, "Natural Resources Management," 2 October 1990.

- d. NAVFAC P-73 "Real Estate Operations and Natural Resources Management Procedural Manual," Vol II.
- e. Marine Corps Order P 509.2 "Environmental Compliance and Protection Manual," 26 September 1991.

16. DoD authority and guidance pertaining to outdoor recreation on military installations limits public activities to hunting, fishing, trapping, picnicking, bird watching, off-road vehicle use, hiking, interpretive trails, wild and scenic river use, and under-developed camping. Of the 183 responses to a question about types of outdoor recreation permitted on military installations in the DoD SCNRP, (1992) activities were permitted with the following frequency: fishing - 104 (56.8%), bicycling - 102 (55.7%), hiking - 81 (44.2%), hunting - 76 (41.5%), camping - 74 (40.4%), non-power boating - 61 (33.3%), swimming - 53 (28.9%), outdoor education/interpretive programs - 47 (25.6%), power boating - 30 (16.3%), off-road vehicles 20 (10.9%), rock climbing - 7 (3.8%), and other - 38 (20.7%).

17. Public access to military facilities such as boat launching ramps, marinas, lodging facilities, picnic areas, recreational vehicle campgrounds, hunting and fishing camps is presently not provided for in any DoD directives. However, local commanders have discretionary authority to allow limited public use of such facilities under the auspices of public relations. DoD policy pertaining to marinas, campgrounds, lodging facilities, etc., falls under the purview of the Office of the Deputy Assistant Secretary of Defense (Personnel, Families, Education and Safety) The Deputy Assistant Secretary of Defense (Environment) has responsibility for all other natural resources management programs.

18. Lack of policy coordination may decrease program effectiveness because one DoD organizational entity is managing natural resources for multi-purpose use while another is responsible for conducting morale, welfare, and recreation (MWR) programs. Discussions with DoD, Service and installation level personnel revealed the two entities have little interaction except at installation MWR program levels. Occasionally MWR programs collect hunting and fishing fees and provide limited publicity and promotion for natural resource management programs. Most of the Services' MWR outdoor recreation programs are limited

to organizing trips, classes, outings, and providing equipment rental and checkouts. Much more could be accomplished through improved coordination between personnel at all levels with natural resources, and MWR policy-making or management responsibilities.

19. The literature review indicated the use of off-road recreational vehicles (ORRV's) on installations has probably received more attention than any other outdoor recreational activity. Unmanaged, they pose potential harm to natural resources, safety problems to users of those resources (as well as operators), and conflicts among the various uses of resources. In response to the growing popularity of ORRV's, Executive Orders No. 11644 (1972) and No. 11989 (1977) required that public lands in the custody of the Federal Government be evaluated for potential use by ORRV'S. Executive Order No. 11644 included provisions for agency heads to develop and distribute regulations prescribing ORRV operating conditions and ensuring that areas and trails are well marked and that appropriate public information is disseminated for public use. In short, while the EO's recognized the limitations of ORRV usage, they encouraged Federal agencies to take pro-active approaches to accommodate use where it would not cause adverse affects on the environment.

20. The DoD took a less than pro-active approach to implementing these two Executive Orders. DoD Directive 4700.4 specified "that all DoD land and water areas shall be closed to such use (ORRV) unless an environmental impact analysis in accordance with DoD Directive 6050.1 has been completed and the use is specifically approved and regulated." While this action provided needed protection of the environment, it also raised a convenient shield for individuals to hide behind who have dislike or have no interest in pursuing options for managing ORRV use on military installations. No shortage of information exists on evaluating potential ORRV areas. The Army has conducted extensive research (Appendix A) on assessment methodologies and provided ample guidelines for evaluating and planning areas for different types of ORRV uses.

21. Determination of the full extent to which DoD properties have been evaluated for potential use by ORRV'S was not within the scope of this study. However with the exception of Fort Polk, which has an organized ORRV program, there was little evidence or interest displayed in accommodating ORRV programs. This is consistent with the findings

of the 1992 DoD SCNRP in which only 20 of 183 (10.9%) installations responded affirmatively about off-road vehicles being one of the outdoor recreation activities permitted on the installation.

22. The use of ORRV's is a popular recreational activity. The Motorcycle Industry Council, Inc. (1991) estimated that 31 million people operated a motorcycle, scooter, or ATV during 1990. This is comparable to participation in other recreational activities such as camping (42 million), fishing (40 million), and golf (23 million). Estimated retail sales of snowmobiles steadily declined from a high of 342,000 units in 1971 to a low of 49,000 in 1983 (International Snowmobile Industry Association, 1992). Since the 1983 low, with the exception of decreases in 1985 and 1991, sales increased annually to an estimated high of 82,000 units in 1992.

23. One of the most important changes DoD could make for enhancing public use and enjoyment of natural resources on installations would be providing limited public use of military recreation facilities. Changes in DoD policy permitting members of local communities within the 50 states and the District of Columbia to use Subcategory C, military MWR programs (except military exchanges when authorized and documented by the installation commander on a space-available basis under certain conditions) have been considered within the Office of the Deputy Assistant Secretary of Defense for Personnel Support, Families and Education (Personnel Support Policy and Services Directory). Change of this sort could be a very big step in furthering the goals and objectives of LEGACY. Many of the military's outdoor recreation facilities, campgrounds in particular, are virtually vacant of occupants during seasonal variations and on weekends. Additional patronage and revenue may be welcomed by many managers who commonly struggle to maintain financial sufficiency. An alternative to opening the military's outdoor recreation facilities to civilians in total would be to start by limiting access to prior Service members. This would be a small reward to people who have served in their nation's Armed Forces.

24. It is rather significant that of 196 installation natural resources managers responding to the 1992 DoD SCNRP question, "has the installations been examined for potential for outdoor recreation, including that to support the off-post civilian community as

well as on-post and civilian populations," 79 (40.3%) said their entire installation had been surveyed and 90 (45.9%) of theirs had been partially surveyed. However, when asked whether "you foresee future expansion requirements for public access to your installation, 125 (68.3%) of the 183 respondents replied "no," 39 (21.3%) replied "yes," and 19 (10.3%) responded that the question was not applicable to their installation.

25. LEGACY goals, the authority contained in DoD Directive 4700.4, and possible changes in DoD Instruction 1015.2 authorizing public use of DoD MWR facilities could provide major policy incentives for increasing public access. However, the General Accounting Office (GAO) (1992) identified legal problems with public accessibility to BLM and USFS lands that has ramifications for changes in DoD public access policy. BLM and the USFS issued guidance to their field offices in 1987 and 1991, respectively, to improve access planning efforts. Each resource area, and forest plan was required to include a transportation plan that would identify the access rights needed to support the resource objectives of each plan. It was determined that:

- a. About 14% (50.4 million acres) of the land managed by BLM and USFS in the contiguous 48 states lacked adequate public access because the Federal Government has not acquired the permanent, legal right for the public to enter federal land at the point (s) needed to use the land as intended by the managing agency.
- b. Permission from landowners to cross their land is not considered adequate access because such permission can be revoked at any time.
- c. Further, over the past decade, private land owners' unwillingness to grant public access across their land has increased.
- d. Factors contributing to this unwillingness include concerns about vandalism and potential liability, and desire for privacy.
- e. Management activities conflicting with access rights are construction, trail and road maintenance, and wildlife habitat enhancement.

26. Public access to DoD property is controlled by many military installations, particularly around cantonment areas. However, on large installations such as Eglin Air

Force Base, Fort Polk, and Camp Shelby, total control of public access is very difficult if not impossible. Surrounding land use and ownership patterns are not unlike that of the BLM and USFS. If DoD increases public access to military installations, it could encounter problems, particularly where public hunting, fishing, hiking, and camping are permitted, unless the legal access issue is anticipated and appropriately addressed.

Resources and Activities

27. Although DoD administers over 25 million acres of land and water, the Congressional Research Service (1989) stated that "individual military branches have agreements with states and other federal land management agencies, principally the BLM and the USFS, permitting use of another 15 million acres." This estimate is apparently dated according to Dwight Hempel, BLM Reality Specialist, who reported that 15,800,000 acres of public lands were transferred to the Air Force alone as of January 1, 1990. Also, DoD has identified over 12 desired expansions totaling over 4.4 million acres in 12 states. BLM has compiled figures that show over 3.2 million of these acres are proposed as new or expanded military facilities on public lands in seven states.

28. Information from the Defense Environmental Management Information System (DEMIS) indicates, as of 1986, the following resource availability from DoD components:

Acres available for hunting/fish	10,803,801
Public access acres	9,321,489
DoD access only	1,411,155
Available for other outdoor rec.	9,537,498
Public access acres	7,543,710
DoD access only	488,680

29. Results of the 1992 DoD SCNRP, with 204 installations reporting, indicate a total of 3,495,123 acres of land managed for hunting and fishing and an additional 1,972,521 acres managed for other types of outdoor recreation. When asked "does this installation have any fish and wildlife resources that are (or could be) the basis for a recreation program," of 199 respondents 137 (68.8%) replied "yes," while 54 (27.1%) replied "no." A total of 8 (4.0%) of the respondents to the question indicated it was either not applicable to their

installation, or they did not know the answer. Of the 137 respondents replying they had fish and wildlife resources for a program, 23 (11.5%) indicated they had no such programs. This indicates opportunity for expansion of outdoor recreation programs involving fish and wildlife resources on these installations.

30. Information from an unofficial source (Spinks 1991) provided a different perspective on public access to outdoor recreation on military installations. This information concerning hunting and fishing activities on 143 military installations in 40 states, revealed that 80 (56%) are open or partly open to public access; whereas, 63 (44 %) are closed to public access. Accessible acreage was not reported for each of the 143 installations. The information provided revealed 92% (9,851,130 of 10,728,546 acres) was open or partially open to the public and 8 percent (877,416) was closed to public access.

31. Access policies between installations vary widely (Spinks 1991). Nearly every installation has a different policy. For example, at Ft McClellan, AL, active duty military personnel can reserve hunting areas up to three days in advance; whereas the public is limited to reserving a hunting area one day in advance. At Ft Richardson, AK, small game hunting is open only to active duty military, retirees, dependents, and DoD civilians, but is closed to the public. At Ft Riley, KS, all state residents and active duty military and their dependents are allowed to hunt big and small game. Naval Weapons Station, Charleston, SC, has three categories of hunters: Category A, military and civil service employees of the weapons station; Category B, active duty military personnel and their dependents; Category C, The public, retired military personnel, and all people not included in Categories A & B. Hunting at the Air Force Academy, CO, is available to the public by getting a permit through lottery. Vandenberg Air Force Base, CA, limits hunting privileges to active duty and retired military members and dependents of active duty and retired military members on the installation.

32. Results of the 1992 DoD SCNRP support these findings about inequities in public access to hunting and fishing on military property. Of the 7 categories of people permitted to hunt and fish on military installations, general civilians have the least access. When asked "what categories of persons are permitted to hunt and fish on the installation,"

49 (24.6 percent) indicated that general civilians were permitted. Data also indicated that in the Army and Air Force, the hunting and fishing privileges are slightly more available for officers than enlisted personnel. The Navy indicated the same privileges are available to enlisted personnel as officers. The Marine Corps reported equal opportunities among all ranks, but was the most limiting service in permitting general civilian public access to hunting and fishing.

33. An inconsistency appeared in responses to the 1992 DoD SCNRP. While 49 (24.6 percent) of the respondents indicated general civilians were permitted to hunt and fish, when asked "does the installation provide public access for outdoor recreation purposes," of 198 respondents, 88 (43.9 percent) replied access was provided. This might have 2 logical conclusions: (1) the public has greater access to military installations for outdoor recreation except when it comes to hunting and fishing; or (2) hunting and fishing is not as available as other outdoor recreation activities on some installations.

34. Spinks (1991) and the 1992 DoD SCNRP indicate that many military installations do not appear to be adhering to DoD Directive 4700.4 policy which specifies "public outdoor recreation activities shall be equitably distributed by impartial procedures, such as a first-come, first served basis or by drawing lots." Although the directive does not appear to provide guidance on the priorities of various user groups the Air Force (AFR 126-1) and the Navy (NAVFAC P-73), similarly categorize user groups for recreational purposes in addressing the issue. While this structure provides a basis for local decisions on user priorities, DoD Directive 4700.4 states that public access to DoD properties for outdoor recreation shall be allowed whenever compatible with public safety and mission activities. It appears that some local access policies may have been made more for the convenience of DoD affiliated users rather than on safety, mission or sound natural resources management considerations. In general, this study has revealed inconsistencies and ambiguities in public laws, DoD directives, and Services regulations that contribute to divergent public access policies to DoD lands.

35. Department of Defense and services' guidance establishes priorities authorizing military and DoD civilian personnel usage of installation recreation areas and facilities.

Installation commanders decide whether or not non-DoD civilian personnel can use recreation areas and facilities. However, no official guidance has been identified during this study giving commanders support for their decisions.

36. Boyd and Dove (1976) conducted a survey that identified the criteria Air Force installation commanders consider most important in making decisions concerning non-DoD civilian usage of military recreation areas and facilities (Table 1). The commander's principal concern was for the protection of Air Force property. In their opinion, the morale of military personnel would decrease if non-DoD civilians were allowed the use of military recreational facilities. The main legal concern was the issue of liability for personal injury to civilians while on military installations; they were least concerned with the issue of liability for damages to property of civilians caused by military agents. Utilization rate of the requested facility by military personnel (i.e., present percent utilization of capacity) was the most important availability concern. Utilization of civilian facilities was the least important issue. The distance of an installation from a large metropolitan area was the most important proximity issue, while the number of non-DoD civilians living within a reasonable distance (within a 30 minute drive) of the installation was the least important issue.

37. Interviews conducted with installation natural resources management personnel during this study revealed that some local commanders were reluctant to designate areas and facilities that appeared to be supportive of outdoor recreation programs and access that catered to the public such as campgrounds, picnic areas, parks, parking lots, restrooms, viewing stands, or interpretive displays. Periodic installation audits conducted by the GAO require checklist authorities, policies, or criteria for the retention and use of all DoD areas and facilities. One of Legacy's priorities is to "establish educational, public access, and recreation programs designed to increase public appreciation, awareness, and support for nation and national environmental initiatives." There is a potential conflict between Legacy's pursuit of increased public access and awareness and GAO'S emphases on limiting military installations to "mission essential" areas, facilities, and programs. In view of Congressional intent of enhancing public access and awareness of DoD natural resource management programs, policy clarification and awareness are needed for installation commanders to carry

Table 1
 Summary of scores of
 criteria air force commanders consider important in allowing
 non-DoD civilian usage of recreational facilities.

<u>Variable</u>	<u>% of Importance</u>
Security	32.52
Morale	30.54
Legal	24.52
Availability	8.12
Proximity	3.86

out Legacy programs without fear of being penalized by GAO. Either that, or Legacy needs to be added to the mission statement.

38. Part of this problem may stem from the newness of Legacy; perhaps too little time has elapsed for it to become fully institutionalized and operational. Some resource managers indicated they are taking a "wait and see" approach. Is it one of those programs that may be here today and forgotten tomorrow? Further reluctance to support Legacy's initiatives centers on the unavailability of funds to provide for operations, maintenance, and staffing.

Mandated Access

39. Title 10, CFR, Section 670 a-1, "Hunting, Fishing and Trapping on Military Lands," stipulates that fish and game or conservation officials may, upon agreement between an installation and the Governor of the State in which the installation is located, have full access to that installation or facility to effect measures for the management, conservation, and harvesting of fish and game resources. Information was requested, by personal letter, from each of the 52 state fish and game agencies on existence of agreements with military installations and the difficulty in gaining installation access to carry out agreements. Of the 42 states responding, 31 reported a total of 134 management agreements. Eleven states reported having none.

40. Responses by state fish and game directors were overwhelmingly positive concerning installation accessibility to carry out management, conservation and harvesting agreements. However, 9 states (17%) individually reported the following access problems:

- a. As base commanders change -- our involvement in the natural resources management plan changes. To be quite frank, the situation has become quite frustrating, and therefore, our involvement is limited.
- b. The only times that we have difficulty is during working hours for the base or during security alerts.
- c. The only major problem we have had regarding the programs has involved access by division law enforcement personnel. The military has often denied or restricted access to division

personnel for law enforcement purposes. It is my opinion that military personnel want to charge violators under their statutes in order to collect fines and retain jurisdiction. There are other problems such as federal officials not being authorized to charge offenders with state statute violations and the frequent turnover of military enforcement personnel (every one or two years). Although cooperative agreements indicate that division enforcement personnel should have access to military properties, most field personnel (military and division) are not aware that the agreements exist. During the 1991-92 deer hunting seasons, there were at least two major access problems. In both cases, division personnel were not allowed into facilities and were advised that they had no jurisdiction.

- d. There are portions of some military bases where entry is restricted for security reasons, or for personnel safety reasons (i.e., bombing or artillery ranges, etc.).
- e. The Department has historically had difficulties in accessing some areas under military control for fish and wildlife management purposes. The primary problems have been associated with entry of military-controlled airspace for the purpose of conducting wildlife surveys. Difficulties have typically consisted of refusal of right to enter restricted airspace within the time window necessary to conduct such surveys. Ground entry has typically been less a problem, for Department personnel or the public, although entry to ranges is marked in such a manner as to discourage entry or use. More typical than specific identifiable problems or difficulties, or perhaps more difficult to deal with, is near complete disregard for Departmental concerns and failure of military personnel to communicate with the Department.
- f. There are a number of other military installations in our state. We have no written agreements with them, but are working to increase public access for hunting on Department of Defense property. This has not been an easy task, but progress is being made.
- g. The agreement with -----, however, was just recently approved, and was necessary because of problems with State officers being denied access to handle hunting violations..

- h. There has been a great deal of reluctance on the part of the plant agronomist to accommodate wildlife concerns into the management of this land. One or two commanding officers that had a personal interest in wildlife were able to instigate a more balanced plan, but these changes quickly reverted to all-out agricultural production once they left the plant.
- i. On one installation we have not been able to successfully establish hunts that are open to the general public. On another area, we have been unable to establish the types of hunts necessary to maintain control of the deer herds, and yet have been requested by the installation to arrange for deer removals. On other areas we have generally good cooperation with the installations for the purpose of conducting various wildlife management programs.

41. Title 16, CFR, Section 670 et seq. "Conservation Programs on Military Installations," (Sikes Act) authorizes the USFS to enter into cooperative plans with military installations for management of fish and wildlife resources. The USFS and the DoD signed a cooperative agreement in 1988 to implement the North American Waterfowl Management Plan (NAWMP) through September 1992. Each of the seven regions of the USFS responded to a letter inquiring about the number of existing agreements, and whether difficulties were experienced in gaining access to installations in carrying out plans. All seven regions responded that they are experiencing no difficulty in accessing DoD installations in carrying out their agreements and plans. The following summarizes each of the replies:

Region 1 (Northwest): Currently has 2 Sikes Act agreements, is negotiating a third and reviewing plans with 3 other installations.

Region 2 (Southwest): Has 12 cooperative agreements with military installations; however, is not active in the management of fish and wildlife resources due to constraints on USFWS funding and the fact that many installations have their own biologists.

Region 3 (North Central): Has cooperative agreements with 12 military installations, 3 of which have multiple agreements.

Region 4 (Southeast): Has 45 cooperative agreements/conservation plans with DoD installations most of which are current.

Region 5 (Northeast): Five installations were selected to participate in NAWMP activities and fisheries management assistance is rendered to 10 installations. It was unclear whether NAWMP and fisheries management assistance exists on some of the same installations.

Region 6 (Mountain-Prairie): Thirteen agreements are in existence.

Region 7 (Alaska): Has umbrella agreements with the Departments of the Army and Air Force, but no specific agreements currently exist. The Region is conducting fisheries work at Shemya Air Force Base.

Native American Access

42. Before Europeans settled the North American Continent, Native Americans including American Indians, Native Hawaiians and Alaska Natives (including Aleuts, Eskimos, and Indians, had free access to the land and all of its natural resources. The natural resources were, and still are inextricably interwoven with their cultures, values, religions, and as means of subsistence and survival. Caucasians claimed the land and resources for their own uses and attempted to exterminate many Native American Nations, and some of their most valuable resources such as the buffalo. Europeans also discouraged their ways of life and dislocated or limited the survivors to reservations, sometimes far removed from principally inhabited areas.

43. There is now a movement by many Native Americans to revitalize and preserve their cultures, religions, values, and ways of life. The efforts of individual tribes, and organized groups of Native American such as the Keepers of the Treasurers are contributing to the movement. Federal legislation, such as the Native American Graves Protection and Repatriation Act (NAGPRA), the American Indian Religious Freedom Act (AIRFA) and the National Environmental Policy Act (NEPA) is aiding the effort. Recognition of treaty rights and increased public sensitivity seems to be being made toward restoration of Native American rights. Federal land management agencies and the Bureau of Indian Affairs are aiding by developing policies and programs.

44. Many existing military installations are on or adjacent to many "Indian Land Areas Judicially Established" (1978) as a result of cases before the U.S. Indian Claims Commission or the U.S. Court of Claims. These are lands in which an American Indian tribe is attempting to prove its original tribal occupancy of a tract within the continental United States (Briuer and Hebler, 1992). Many, if not most military installations either already have been, presently are, or will eventually have to deal with Native American issues pertaining to access of DoD controlled lands and their cultural, and natural resources.

45. Although land and natural resource utilization issues are inseparable from Native American cultural and religious matters, the focus reported herein is limited mainly to those pertaining to access and management of natural resources and recreation related issues. LEGACY issues relevant to the broader spectrum of Native American cultural issues are not within the scope of this research and are reported elsewhere (Briuer et al. 1992, Neumann et al. 1991).

46. Briuer et al. (1992) provided a synopsis of what most Federal agencies are doing in the areas of policy and activities regarding Native American Consultation. However, with the exception of discussing some conflicts arising from recreational facility developments, such as skiing areas, it devoted little attention to other natural resource-related issues such as fish and wildlife subsistence usage or opportunities for further Native American involvement in DoD natural resource management. However, he concluded that "the issue regarding legal responsibilities for recreational impacts to traditional cultural properties associated with ski areas is one that is not likely to be a serious problem for DoD installations simply because DoD installations, unlike USFS lands, are not high visibility public recreation areas. Sacred sites are often high elevation areas like Mt. Hood, Mt. Shasta, or Mt. Graham. Such sites are far more frequent on USFS lands although they are not unknown to DoD Lands. Briuer et al. (1992) cite (Rennicke 1991) that 'vision caves at point Conception on Vandenberg Air Force Base are of special ceremonial importance to the Chumash people in Central California. However, Briuer et al. (1992) conclude that "other recreational impacts more common to DoD installations, such as off-road vehicle use, could present more serious litigation problems. Secular recreation uses are often considered by

Native American to be incompatible with religious or spiritual values and uses in much the same way that most American would probably consider it entirely inappropriate to propose repelling activities off the Cathedral at Notre Dame or camping in the Sistine Chapel."

47. Neumann et al. (1991) concluded that "recreation as it relates specifically to cultural resources can take many forms, including such pursuits as doing personal research about an installation's history and active participation in archeological surveys and excavations." "Other Native American recreational activities include visiting historic properties and museums, attending or participating in historical reenactment or battles, hiking on historical trails and picnicking in the midst of a landscape rich in history or near a preserved archeological site. Their recreation may also include reading historical documents and viewing old maps and photographs. She further concludes that while military installations are not national parks, they are often not always entirely closed to the public. A number of installations have lands which are open for recreation or other purposes under administrative and management arrangements with other federal and state agencies." She concurs with Briuer that some recreational activities on DoD installations may conflict with other needs; not only mission requirements but ones such as preservation and avoiding interference with the practice of Native American religious activities. Neumann (1991) warns that "there may also be additional legal liabilities with regard to opening for recreational purposes lands that were previously closed to the public."

48. The trend among other federal land management agencies and at least one known state (Arizona) is toward recognition of Native American access for subsistence and gathering needs. NPS policy (1987) states that the taking of fish and wildlife, by Native Americans, for the pursuit of traditional subsistence or religious activities is permitted when authorized by law or existing treaty rights, or in accord with Title 36, CFR, Sections 2.1 to 2.3 and NPS Management Policies IV-3 to IV-11. Disposal of surplus wildlife and carcasses shall continue as outlined in NPS Management Policies IV-10, with preference given to Native American groups. Gathering of plants is permitted when in accordance with the exemption noted in Title 21, CFR, Section 1307.31 regarding peyote for use by the Native American Church. NPS policy with regard to other natural resources is in accord with Title 36, CFR,

Section 2.1(C)(1); the Superintendent may designate certain fruits, berries, nuts or unoccupied seashells that can be gathered by hand for personal use or consumption upon a written determination that the gathering or consumption will not adversely affect park wildlife, the reproductive potential of a plant species, or otherwise adversely affect park resources. The collection of minerals and rocks is permitted when authorized by law or treaty rights, or in accord with NPS regulation.

49. The most critical element in governmental dealings with Native American matters is effective communications and consultation. This can be a complex, sometimes confusing and potentially frustrating experience for anyone not well informed or preferably formally educated about Native American cultures, values, customs, and tribal practices. The NPS has recognized this and established an apparently effective means of operation with Native American issues. The NPS Rocky Mountain Regional Office has established a Regional Ethnographer position whose main job is dealing with the scientific description of individual Native American Cultures. This person further develops better communication and working relations between Indian tribes and the National Parks. Other important tasks of the position include providing recommendations on ethnographic aspect of Environmental Impact Statements, General Management Plans, Development Concept Plans, cooperative agreements, programmatic memorandum of Agreements, Special Use Permits, and related planning or management documents. He also develops and directs regional training programs on ethnographic issues. Employment of ethnographers may be useful for DoD in a similar fashion on installation areas with existing or potential interaction or issues arising out of Native American concerns.

50. BLM policy where treaties provide for usual and accustomed uses of fish and wildlife in ceded or other lands, is to develop habitat management plans and improvement projects to give priority consideration to providing benefits for species traditionally used by affected tribes. Native American concerns also should be considered when developing management and recovery plans for species valued for nonsubsistence reasons (e.g., eagles). BLM policy states that Native American cultural and religious concerns should be considered when collecting recreation inventory information, preparing recreation management plans,

establishing use limitations, and processing special recreation use permits. For example, visual resource management classification should account for landscapes with attributed sacredness. Seasonal off-road vehicle limitations might be necessary when traditional uses could be disrupted. Additionally, areas used for subsistence or ritual activities might need to have organized recreation use channeled away from them. Programs and materials for interpreting areas or subjects related to traditional Native American cultures and practices should consider and incorporate the perspectives of the Native American as appropriate.

51. In the USFS document reviewed (FS 446) the Forest Service says, "There are many rights and privileges associated with treaties, such as grazing, hunting, subsistence, and gathering of plant resources. In addition, land and resources hold a special and unique meaning in the spiritual and everyday lifeways of many Native Americans. National Forest System lands contain many traditional, historic, and contemporary use-areas of critical importance to Native Americans. Cultural practices such as gathering of plant resources, occur commonly on National Forest lands." Briuer, et al. (1992) reported that "Native American consultation continues to be a routine USFS activity, especially in the Western part of the United States and their consultation efforts are far too numerous to attempt to describe."

52. Of particular interest at this juncture in the evolution of federal policy on Native Americans access and use of natural resources is development of a Native American Policy by the USFWS (draft, July 15, 1992). First, the USFS recognizes and will maintain a government-to-government relationship with Native American governments and will support their right to self-determination and self-government. In particular the USFWS seeks to "meet the convergent objectives of the USFWS and Native American governments. The USFWS will utilize holistic, multidisciplinary approaches to managing fish and wildlife resources and will develop and implement partnerships with involved Native American governments. Emphasis upon this holistic, co-management approach to fish and wildlife management will be mutually beneficial to the USFWS and Native American governments in addressing common fish and wildlife management goals and objectives ultimately effecting long-term conservation of fish and wildlife resources." The USFWS recognizes Native

American governments as the primary parties for making fish and wildlife resource management policy and for managing fish and wildlife resources on Native American reservations. On off-reservation lands the USFWS will recognize and support the rights of Native Americans to utilize fish and wildlife resources on traditional areas where there is a recognized basis for such use. The USFWS will recognize that certain Native American governments have treaty-guaranteed or reserved rights to co-manage off-reservation fish and wildlife resources. In such cases, the USFWS will cooperate with Native American governments to ensure that they continue to be legitimate co-managers of fish and wildlife resources. The USFWS cites the Indian Education and Self-Determination Act (Public Law 93-638, as amended) as the means by which they will cooperate with Native Americans to identify and facilitate the transfer of contractible Service programs or portions of programs to Native Americans. Regarding access, the USFWS stipulates that it will provide Native Americans with reasonable access to Service managed or controlled lands and water for exercising their ceremonial, medicinal, and traditional activities and rights. However these uses will be allowed only to the extent that they do not prevent the Service from accomplishing its mission and meeting site-specific management objectives. Cooperative law enforcement activities will be encouraged as integral components of Native American, Federal, and State co-management agreements relative to fish and wildlife resources. The Service says it will also work with Native American governments to inform and educate the public about Native American fish and wildlife related treaty and other federally reserved rights, laws, regulations, and programs in which the USFWS and Native American governments are jointly involved.

53. In reviewing Federal agencies policies on Native American consultation, Briuer et al. (1992) examined the progress of policy formulation within DoD and concluded that among the military services the Air Force is currently the leader in formulation of policy and procedures. Little attention is devoted in his review to access and use of natural resources except in pointing out the successes of the U.S. Army at Ft. Lewis, Washington. On August 17, 1991 the Nisqually Fish Hatchery became operational at Clear Creek located on 135 acres leased for Ft. Lewis by the Nisqually Indian Tribe. It is the first major salmon fish

hatchery in Puget Sound to come on-line since the signing of the U.S.-Canada Salmon Treaty. The opening of this fish hatchery is a major milestone in cooperative agreements between a Native american tribe, the U.S. Army, and USFWS, the State of Washington, and the city of Tacoma Washington. Ft. Lewis and Ft. Sill, Ok, are perhaps the two most progressive military installations working with Native Americans on matters related to natural resources management.

54. Ms. Cathy Jerbic, Cultural Resources Director, indicated that other programs, such as a Nisqually Cultural Exchange Program are being planned at Ft. Lewis. This program would be the first of its kind to foster exchange of ideas and cultures between the military community and the Nisqually Indians. Included would be a youth recreation exchange program in which Tribal youth sports teams would participate in military dependent youth sports programs. Additional features would include displays by military police, shared AA/NA meetings, Tribe members participating at military library activities (preschool story time and Summer reading club), and Tribe members participating at Chinook Theater. Nisqually artists would be utilized as contract arts and craft instructors. Tribe members would be admitted to on-post secondary education classes, and older Tribe members would be incorporated into intramural athletic programs.

55. Other and mutually beneficial initiatives at Ft. Lewis include the possible contracting with local Native American tribes to conduct natural resources management tasks such as wildlife inventories, species counts, and so forth. The Yakima Indians have expressed interest in conducting wildlife surveys and cultural surveys and the Nisquallies have submitted an unsolicited proposal to develop video tapes and brochures for troop training. According to Stephen Hart, Staff Judge Advocate Office, Ft. Lewis, WA, as much as Ft. Lewis would perhaps like to enter into these types of contractual arrangements there are legal problems associated with tribal desires to contract directly and non-competitively. The Competition in Contracting Act, 10 CFR, Section 2301 (a) prohibits the Armed Forces from engaging in such contracting. By contrast the Buy Indian Act 25 CFR permits the Secretary of the Department of Interior to waive this limitation for agencies under his jurisdiction such as the USFWS in accordance with either the Indian Self-Determination Act

25 CFR, Sections 450 (f)-(n), or else the Indian Education and Self Determination Act (Public Law 93-638 as amended). There is legal precedent for direct non-competitive contracting of Native American services in one federal department (Interior) but not in another (Defense).

56. There appear to be overriding mutual advantages to for military installations to contract directly and non-competitively with local federally-recognized Indian tribes who have indigenous knowledge of local natural resources or skills particularly applicable to installation needs. Several possible solutions may exist for resolving this dilemma. One solution would be to amend the Competition in Contracting Act to give an exemption to it for contracts with Indian tribes in or near the reservation and allow military installations to negotiate contracts directly with local tribes. Another possibility would be to create a "set aside program" through the Small Business Administration similar to the Buy Indian Act.

57. An organization that could be instrumental in assisting DoD in dealing with natural resource management matters is the Native American Fish and Wildlife Society, located in Broomfield, CO. Composed of Native American natural resource managers from across the nation, the organization is dedicated to perpetuating effective fish and wildlife management and conservation programs, enhancing cooperation between Indian tribes, federal, state, and local natural resources management agencies and encouraging and assisting young Native Americans to pursue formal education and careers in this field. This is an organization that has much to offer and it would be mutually beneficial if it met occasionally with the National Military Fish and Wildlife Association to exchange information and ideas.

58. Although review of state policies on Native American affairs was not part of this project, the State of Arizona's, Game and Fish Department "Memorandum of Understanding with the Navajo" dated January 29, 1992 was brought to the author's attention as one that is exemplary. The MOU provides that the State and the Navajo Nation will work cooperatively on training, wildlife management, law enforcement and hunter education. It also provides for cooperative planning of fish and wildlife management plans, on the Navajo Reservation,

exchange of information and reports, assisting each other in law enforcement, and funding intensive cooperative wildlife management programs through a cooperative work fund.

Public Awareness, Public Relations, Education, and User Information

59. Few sources of specific information focusing on the effectiveness of either public awareness, public relations, educational or user information relative to natural resources management are available from DoD or the Military Services. In the words of one individual interviewed the effectiveness of such programs "probably range from non-existent to excellent." A GAO report (1981) was critical of DoD by concluding "many bases were not fully exploring opportunities to extend recreation enjoyment of public lands within military reservations. As a result, DoD could not ensure that public lands are managed in accordance with congressional goals and its own objectives." At that time, a sampling of bases revealed that 11 out of 17 did not identify public recreation opportunities.

60. In the 1992 DoD SCNRP when asked, "do you have public education or awareness programs in place for any of your natural resources," 80 (40.4%) of the respondents replied yes, 88 (44.4%) replied no, and 30 (15.1%) not applicable. When asked, "to whom are the programs primarily directed," 65 (32.8%) replied they were directed toward military personnel, 47 (23.7%) civilian personnel, 36 (18.1%) general public, and 16 (8.0%) special interests. When asked, "what best describes the overall goal of the natural resources public education/awareness program," 25 (12.6%) indicated interpretation, 23 (11.6%) resources enhancement, 41 (20.7%) resources protection, 46 (23.2%) good public relations, and 7 (3.5%) other. When asked, "is there a need for either

program expansion of existing public education/awareness program or development of new programs to increase public appreciation and support for natural resources," 99 (50.0%) replied yes, 87 (43.9%) no, and 12 (6.0%) not applicable.

61. The importance of good public awareness, public relations, education, and user information cannot be over-emphasized. Fazio and Gilbert (1990), state that "natural resource management is 90 percent managing the public and 10 percent is managing the resource." The 1992 DoD SCNRP revealed that on over half of the 198 military installations reporting, more often than not 88 (44.4%) versus 80 (40.4%) of the time natural resources managers were not involved in planning for public access. Fazio and Gilbert (1986) provide guidance on the public relations and education in natural resources management and is suggested as a reference for DoD natural and cultural resource managers. Performance procedures are outlined for many essential functions in dealing with the public. Perhaps most valuable is the clarification of the terms for natural resource managers which are at times used interchangeably or confused with one another. For instance Fazio and Gilbert (1986) refer to public awareness as the time when an individual, or in this case the public, first learns of an idea, product, or service. "From the public relations standpoint, this result is the quickest and easiest to attain." "Mass media can be effectively used to bring a public to the awareness stage in an issue." Public relations is defined as "the planned effort to influence public opinion through good character and responsible performance, based upon mutually satisfactory two-way communications." Education, on the other hand, "provides learners with the tools and information for making sound judgements and the end of education is expert discernment in all things."

62. Fazio and Gilbert also discuss "propaganda" and explain that while there are differences between propaganda and education "both have a place in public relations." In their opinion, there are times when propaganda is a legitimate and useful tool. For example, after a management decision has been made with due public involvement, the practice should be promoted so it will be accepted by all. "If a testimonial is in order, or an emotional appeal, or an appeal to the pocketbook--so be it. This does not mean every type of propaganda technique will be appropriate and certainly any that is unethical in a particular circumstance should not even be considered. But it does mean that propaganda cannot be ruled out as a public relations tool. Certainly the opposition, and there is always some, will not hesitate to use persuasive techniques, including propaganda. Many good, sound, natural resource proposals and practices have been rejected by publics who are propagandized by groups or individuals with a strong desire to prevent the idea from working. A knowledge of propaganda techniques can help detect when it is being used against you. This alone can be an important means of planning a more effective approach to influencing others."

63. Perhaps user information can best be described as factual, authoritative, and current communication that enables a potentially responsible public to utilize and enjoy natural resources. Interpretive programs are useful techniques to transfer information to the public. Fazio and Gilbert (1986) quote Tilden (1977) "interpretation is an educational activity to reveal meanings and relationships through the use of original objects, by first hand experiences, and by illustrative media." Effectiveness in public awareness, public relations, education and user information is paramount to DoD's achieving a natural and cultural resources management program on par with the other federal land management agencies.

64. Another important point made by Fazio and Gilbert (1990) is that "there is no such thing as the public." They say, "trying to practice public relations without first identifying specific publics is like shooting at a blank piece of cardboard, then drawing target rings around the hole." There are in fact many publics that natural resources managers have to deal with. They add that by identifying publics, it becomes easier to:

- a. understand the people who are affected by some issue and know where they stand on it.
- b. reach these people through communications, including informal networking.
- c. tailor message content for effectiveness in meeting specified objectives.
- d. evaluate effectiveness of public relations efforts.

Further, the "identification of publics can be used to greatest advantage when identified in relation to a specific issue." This holds true not only for public relations, but also for public awareness, education, and effective user information. Among the 2 groups of publics identified by Fazio and Gilbert (1986) are internal (other land-use agencies, employees, retirees, researchers, governing and advisory bodies, legislators, catalyst publics, Cooperative Extension Service) and external (communities, consumptive users, nonconsumptive recreationists, landowners, business community, youth and their leaders, media representatives, and the general public or people that cannot be placed in a single category). They emphasize that understanding or communicating with such diverse groups is extremely difficult. Therefore, the temptation to lump publics into the category of general public should be avoided whenever possible.

65. While numerous practical communications techniques are explained by Fazio and Gilbert (1986) they emphasize the necessity of applied research. A research proposal was submitted by Jacobson (1992) to Eglin AFB, FL, to better understand the various publics of the installation and to develop effective methods of communication about the base's

natural resources for those audiences. Jacobson's illustration of the project is presented in Figure 1 and is suggested as a model exemplifying a logical approach to development of public awareness, public relations, education and user information programs for any military installation natural resource management program.

66. Several documents were reviewed to learn more about the effectiveness of existing public relations programs, public awareness public participation in outdoor recreation on military reservations, etc. One source that would hopefully have provided some insight to these questions but didn't was the USFWS periodic National Survey of Fishing, Hunting and Wildlife Associated Recreation. The 1985 survey reports on participation in outdoor recreation activities on federal lands but is non-specific on locations such as military installations. With a few minor additions to the questionnaire used by the USFWS in these surveys valuable information pertaining to location where such activities take place could be obtained. Data pertaining to the amount of hunting, fishing, and other outdoor recreational activities occurring on military installations compared to other areas would be very useful in attempts to evaluate public relations, educational and access programs.

67. A similar report, Listing of Education in Archeological Programs: the LEAP Clearing House (1990), could be greatly advantageous to the field of natural resources management if its data collection methods were adopted to DoD lands. The report is a catalogue of the information incorporated between 1987 and 1989 into the NPS Listing of Education in Archeological Programs (LEAP) computerized database. This database is a listing of federal, state, local, and private projects promoting positive public awareness of American Archeology, prehistoric and historic, terrestrial and underwater. There is a need for information of this nature regarding public awareness, public relations, education, and user information of DoD's natural resources programs. DoD leadership in establishing a program like LEAP would not only be very practical information for installation resource managers, but for other federal land management agencies as well.

68. Another program that DoD could take greater advantage of for dissemination of information is RENEW AMERICA's Environmental Success (INDEX). The program serves as a clearinghouse of environmental success stories and presently has cataloged and

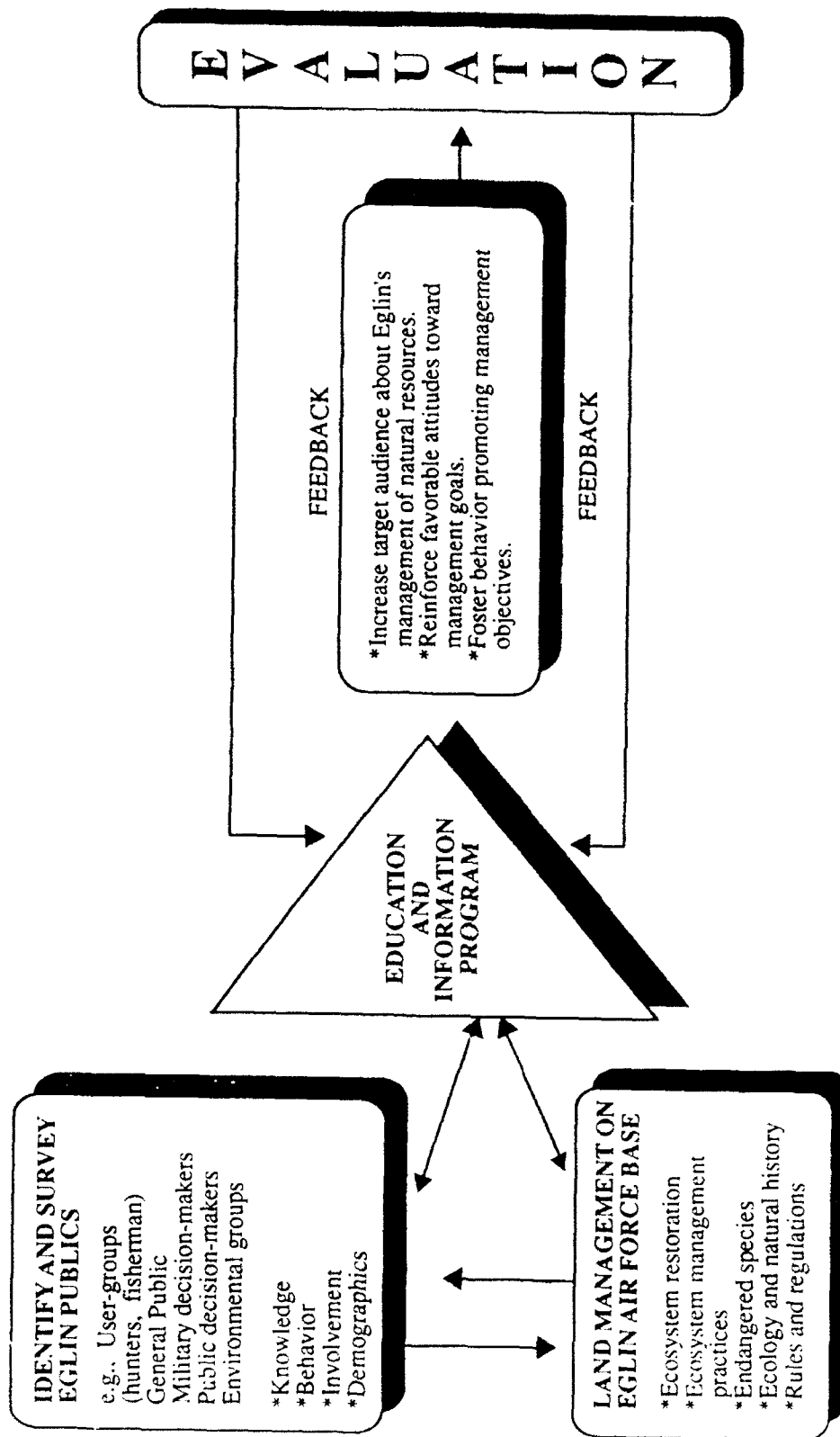


Figure 1. Model for Developing a Public Education and Information Program for Ecosystem Management of Eglin Air Force Base

publicized 1,600 verified programs in 20 categories documented in the INDEX. Applications to receive this recognition are evaluated on the basis of four criteria: program effectiveness, replicability, economic feasibility and sustainability, and meeting community needs. A few military environmental success programs are already identified in the INDEX, but it would seem that with the advent of LEGACY a lot more will become eligible.

69. Two sources of particularly noteworthy user information were discovered. Spinks' (1990) is a source of information for anyone interested in hunting and fishing on military lands. On a state-by-state basis it describes the amount of acreage available for hunting and fishing, identifies eligible users, including whether it is open or closed to the public, user policies including the types of permits required, availability of fish and game, and related recreational activities.

70. Another source of information about using military recreation areas and facilities is Crawford (1992). It provides information on the location, description of Military RV, Camping & Rec Areas, season of operation, eligibility, reservations, camping facilities, support facilities, activities, activities and restrictions of military recreation areas and facilities on a state-by-state basis as well as world-wide.

71. These two books would interest anyone who utilizes military areas and facilities for outdoor recreation. It would be in the interest of the Legacy goal of establishing educational, public access, and recreation programs designed to increase public appreciation, awareness and support for DoD initiatives if these two books were actively promoted by DoD. For instance, they could be publicized, promoted, and distributed through channels such as sporting goods stores, bookstores, base exchanges, day rooms, military newsstands, military recreation centers, community centers, youth centers, rod and gun clubs, entertainment centers, service clubs, etc.

72. A non-DoD agency educational program reviewed during this project is BLM's (1991) plan to educate young Americans about our nation's rich cultural heritage. The plan is designed to upgrade student's skills in science, math, thinking, and communication while strengthening their sense of responsibility for stewardship of America's cultural resources. It was developed for elementary children and focuses on the relationship between humans and

the natural landscape upon which their lives depend. Creation of a similar program emphasizing stewardship of DoD natural resources could be an equally useful Legacy endeavor.

73. DoD's participation by MOU with the other federal, state and private agencies, in "Watchable Wildlife," is a wildlife observation and education program. The program's nationwide goals are to: (A) enhance opportunities for the public to observe wildlife on government lands, (2) foster public support of wildlife conservation, and (3) promote learning about wildlife and habitat needs. The Armed Services have endorsed the program and local installations have already begun initiating projects.

74. Another program appearing to have potential for wildlife management improvements as well as public relations and education benefits is the work done by Ducks Unlimited. Current information indicates the acreage on only 4 DoD projects at Moody AFB, Edwards AFB, CA and Camp Pendleton, CA includes 4,411 developed wetland acres, and 170 created or restored wetland acres, for a total of 4,581 acres. Four Ducks Unlimited projects on 25,000,000 acres of DoD land and water seems minimal in view of the potential for more.

75. Numerous other conservation programs and agencies exist that could help natural resource managers in enhancing natural resources stewardship and management of DoD lands, educational efforts, and public relations. The following are just a few potential sources, most of which are listed in the National Wildlife Federation, Conservation Directory (1992): (1) Pheasants Forever, (2) Trout Unlimited, (3) Sport Fishery Research Program, (4) Whitetails Unlimited, Inc., (5) Wildfowl Trust of North America, Inc., (6) Wildlife Management Institute, (7) Wildlife Information Center, Inc., (8) National Wild Turkey Federation, Inc., (9) National Wildlife Federation, (10) USFWS, and (11) the Native American Fish and Wildlife Society. These organizations would be able to provide information on single species or general natural resources publicity, promotion, and education and should be used for those purposes. The best source of support, advice, and information for most installation managers should be their local state DNR officials. Installation resource personnel need to develop professional relationships with local natural

resource officials. Additionally, they should be encouraged to be actively involved in local and state activities of their professional societies (The Wildlife Society, The American Fisheries Society). The activities and contacts will enable them to function in their installation jobs more effectively. Additionally, the Nation Military fish & Wildlife Association has annual meetings in conjunction with the North American Wildlife & Natural Resources Conference to give installation biologists and managers a forum to interact with others that may have many of the same type of challenges and problems they face.

76. DOD established a "Cooperative Agreement" with The Nature Conservancy (TNC) in December 1988 for the purpose of planning and conducting cooperative efforts by TNC and DoD on DoD lands. Under the agreement TNC provides information, technical assistance, advice, and other services to DoD. This service is for identifying, documenting, and maintaining biological diversity on DoD installations. Similar agreements should be encouraged with the other organizations to improve the management and use of DoD natural resources.

77. Under the provisions of P.L. 101-189 as amended by Title 10 1984, Section 1588 a-c, and Title 16, Section C-1 DoD is preparing new policy and guidance on an expanded volunteer program. It also has a Partnership Program aimed at involving individuals, clubs, civic organizations, and state and national organizations in improving, maintaining, and protecting DoD's natural and cultural resources. In the 1992 DoD SCNRP, of 198 responses to the question "does your installation participate in volunteer programs to enhance natural resource management" 100 (50.5%) of the respondents replied they do, while 77 (38.8%) replied they didn't. The additional 21 (10.1%) respondents replied they didn't know, or the question was not applicable. Volunteer programs were reported in the following frequencies: tree planting 61 (30.8%), youth groups 53 (26.7%), habitat improvement 52 (26.2%), maintenance 49 (24.7%), bird surveys 34 (17.1%), wildlife rehabilitation 19 (9.6%), and interpretive programs 18 (9.1%).

78. As a part of Legacy, a DoD (1991) report to Congress in 1991 indicated there were 10 demonstration projects concerning interpretive trails and materials, viewing sites, educational centers, and other public access. There were 5 new publications on public

awareness such as brochures and handbooks, and 6 projects pertaining to tours and interpretive displays. In 1992 there were 342 legacy funded projects.

Legal Liability

79. Legal liability associated with outdoor recreation is an issue that has received widespread attention. The President's Commission on Americans Outdoors (1989) concluded that a liability crisis existed that threatened outdoor recreation. The Commission stated that the problem had many causes and required the exploration of many remedies. Examples of possible topics were risk management, tort reform, and insurance reform. The Commission recommended that Congress amend the Federal Tort Claims Act to include a recreational use statute that would alter the standard of care for the federal government to gross negligence. It was also recommended that entrance and user fees not constitute consideration of liability.

80. Jim Kozlowski, (personal communication) a recreational law attorney, and widely known authority on the subject, stated that the liability crisis was not as extensive as the Commission had indicated. He remarked that the insurance companies were trying to make it appear to be a crisis. He added that revision of Federal tort claims law is not needed because the federal government is liable like a private individual. Additionally, he indicated that if a fee is charged for use of land the provider loses immunity from liability. DoD installations charge hunting and fishing fees as authorized in Title 16, Subchapter I, Conservation on Military Reservations, Section 670 a (4); therefore, they are liable.

81. The Keystone Dialogue participants' (1989) views paralleled Kozlowski's in terms of federal access issues. They did not have data available to indicate whether there was a real increase in liability exposure when there was access although the perception is that there was a real problem. The problem may, however, be exacerbated by out-of-court settlements which may contribute to an increase in insurance rates even in the absence of litigation.

82. Koslowski (1983) reviewed liability suits on federal recreation sites that involved the Federal Tort Claim Act (FTCA) and concluded that the Department of Interior (DOI) had

no administrative guidelines for settling personal injury claims under FTCA. Further, since payments of claims over \$2,500 are not derived from Department appropriations, there is no real incentive for DOI or any other Federal agency to analyze the costs and establish quality control guidelines for settlement of FTCA claims.

83. According to Coggins and Wilkinson (1987) the only legal basis for tort damage recovery against Federal sovereign is the federal Tort Claims Act 28 U.S.C.A. -- 1291, 1346, 1402, 2401, 2402, 2411, 2412, 2671-80 FTCA. The FTCA allows recovery for personal injury or death caused by the negligent or wrongful act or omission of any employee of the Government while acting within the scope of his office or employment under circumstances where the United States, if a private person, would be liable to the claim and in accordance with the law of the place where the act or omission occurred Id.-1346(b). Federal liability does not extend to performance of discretionary functions.

84. The most detailed interpretation of what constitutes discretionary function in outdoor recreation is in Koslowski (1993). To establish discretionary function immunity, as defined by the FTCA a two-prong test has to be satisfied. The first is whether the alleged negligent conduct involved an element of judgement or choice. A decision is not considered a matter of discretion, judgement, or choice in situations where there is a statute, law, regulation or agency policy specifically prescribing a course of conduct by the agent or employee. The second test to be satisfied in establishing discretionary immunity is whether the type of choice involved considerations based in public social, economic, or political policy. If both of these two tests are satisfied the action in question is considered discretionary and the Federal government and its agents are not liable.

85. Koslowski (1992) also stated that, even when the two-prong test is satisfied and it is shown that the action in question was a matter of judgement or choice grounded in economic, social, or political policy, although there is negligence, and the discretion is abused, the government and its agents may be immune from liability under the FTCA, pursuant to the discretionary function exception. The particular judgement may be deemed negligent, foolish, or careless, but if it's a discretionary function decision the court will not second-guess even the careless or allegedly negligent decision by the agency.

86. Further, there are certain types of decisions involving discretionary function. First, there are decisions of whether or not to initiate programs or activities; for example, whether or not, to provide protective services such as lifeguarding at a designated swimming areas. If it can be demonstrated that a particular decision was made ahead of time rather than as an ad hoc rationalization after the fact and/or demonstrated that an element of judgement or choice involved the balancing of user safety against other economic, aesthetic, environmental or social concerns, the more likely the act in question will be considered a discretionary function.

87. Koslowski (1992) further indicated that another type of decision involves that of administrators in establishing plans, specifications, or schedules of operation. And, sometimes these need to balance user safety against limited budgets. Thus to maintain this balance, at the site level there are often plans defining the extent any particular site will warn or not warn. Ability to properly document a decision increases the probability that a court will defer to the judgements of the agency and find it to be an immune discretionary function.

88. It is the nature of the conduct rather than the status of the accused which is the determinative legal factor. In the instance of an individual ranger making on-site judgements and choices in the absence of a law, regulation, or policy which involves balancing of visitor safety against economic, aesthetic, or environmental concerns, those decisions will be shielded from negligence liability under the discretionary function of the FTCA. If that decision is based on economic policy the Congress would not want the court second-guessing those types of budgetary balancing acts.

89. Koslowski (1992) concluded that the U.S. Supreme Court's reading of the Federal Tort Claims Act has not been clearly delineated. Few legal cases involving federal liability in which discretionary function immunity concerning recreational related incidents were identified in this study.

90. *Mattice v. United States of America*, Defendant. No. C-89-4061-FMS, United States District Court, N.D. California. July 2, 1990 concerned a driver who went over cliff in a National Park. Action was brought against the United States and there was a movement

for a summary judgement. After lengthy review of the concept of discretionary function immunity, the District Court held that: (1) use of redwood for barrier at the curve of the road was a discretionary function for which sovereign immunity had not been waived, and (2) California's recreation use statute barred the driver's claim.

91. In another relevant case *Defrees v. United States of America*, acting through the USFS, Defendant. No. 88-868 RE. United States District Court, D. Oregon, April 10, 1990 property owners brought action under the FTCA alleging that the USFS negligently failed to suppress forest fire that damaged their property. Following the trial, the District Court, Redden, J. held that: (1) USFS actions were within the discretionary function exception to liability under the FTCA, and (2) in any event, the Forest Service was not negligent. Both the *Mattice* and *Defrees* cases indicate the protection afforded federal agencies under the FTCA from negligence liability.

92. However, *Coggins and Wilkinson* (1987) concluded that federal liability is partially dependent on state tort law e.g. *Mattice v. United States*, where California law intervened) which raises a variety of interpretive problems. One is the extent to which the United States can be treated the same as a private party when it functions for public recreation benefit. Another concern is the application and integration of state recreational use statutes that severely limit private landowner liability. *Coggins and Wilkinson* (1987) question whether Congress should enact standards defining federal liability for recreational accidents on the public lands.

93. Illustrative of the ownership issue is the case of *Hagan v. Kramer*, Civ. A. No. 86-1094, United States District Court, W.D. Louisiana, Alexandria Division, June 14, 1987 in which a deer hunter who was accidentally shot by a member of the United States Army while hunting on Ft. Polk Army Reservation, LA, filed suit against the United States under the FTCA. The District Court ruled that the United States was immune from liability for the shooting of the deer hunter because the military reservation was open to public hunting, pursuant to Louisiana statute granting immunity to owners making land or water area available to the public for recreational purposes. Whether the same ruling would apply

involving similar cases on DoD land in other states is unclear. As indicated by Coggins and Wilkinson (1987) it may partially depend on individual state statutes.

94. Frakt and Rankin (1982) concluded that adherence to professional standards and codes of conduct, awareness, and utilization of the best methods and equipment, and use of competent caring personnel, along with the maintenance of relevant records and forms, will minimize injuries, litigation, and liability. However, they also forecasted that ultimately, the increased burden of responsibility of the parks and leisure services profession (along with medicine, law commerce, manufacturing, and government in general) may lead to a transformation of common-law torts into a kind of social insurance not unlike social security or worker's compensation.

Conceptual Frameworks

95. Development of conceptual frameworks for increasing public awareness, educational programs, public access, and programs to increase public use of DoD resources is an objective that has many potential facets and directions. The Bay Area Access Plan (1990) is a large-scale conceptual framework involving the states of Virginia, Maryland, Pennsylvania, and the District of Columbia to provide for the further protection and use of the Chesapeake Bay. DoD is a participant in the Chesapeake Bay Regional Cooperative Agreement along with the Environmental Protection Agency. Within the Bay Area Region are 5 Air Force installations, 21 Army posts and facilities, and 30 Navy complexes, centers, and depots. One of the main objectives of the plan was to promote public access to the Bay and its resources. It contained numerous strategies for increasing public access, understanding, and appreciation of the Bay. A Bay and River Public Access Guide (1989) was created. It is a comprehensive source of information to anyone interested in using the Bay. As a result of DoD's input, the guide contains detailed information on access, outdoor recreation activities, and facilities at military installations in the region. DoD assistance with the distribution of the guide would be supportive of Legacy objectives. DoD contributed to and certainly benefits from the Bay Area Access Plan. Replication of the program at

locations such as the Gulf Coast, the California Coast, and other regions rich in natural resources where military installations are clustered may merit consideration.

96. On a local scale, two examples of installations providing increased public access and use of DoD land were identified. In September, 1990 the Naval Air Station at Mayport, FL, leased 33 acres (Chicopit Point) of land along the St John's River to the City of Jacksonville, FL, to establish and operate a public park. In January, 1990 the Naval Air Station at Key West, FL, granted a license to Monroe County, FL, to provide the public with a needed recreational area on the southern shoreline of Boca Chica Key. Both of these approaches (leases and licenses) for increasing public access to DoD natural resources have merit.

97. Enabling legislation for the Services to lease lands is provided in Title 10, CFR, Section 2667 (a), Leases: Non-excess Property, stating that:

Whenever the Secretary of a military department considers it advantageous to the United States, he may lease to such lessee and upon such terms as he considers will promote the national defense or be in the public interest, real or personal property that is (1) under the control of that department; (2) not for the time needed for public use; and (3) not excess property, as defined by Section 3 of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 472).

98. Title 10, CFR, Section 2668 (a), permits the Service Secretaries to grant "easements for right-of-way to a State, Territory, Commonwealth, or possession, or political subdivision, or a citizen, association, partnership or corporation for a variety of purposes including dams and reservoirs in connection with fish and wildlife programs, fish hatcheries, and other improvements relating to fish culture."

99. To be consistent with goals of Legacy this legislation should be amended to enable leases and easements for a variety of outdoor recreation activities including hunting clubs, ORRV clubs, camping groups, etc. This suggestion was made by an installation natural resources manager interviewed during the study. He viewed the leasing of land to hunting clubs as a potentially desirable means of instilling more public ownership, stewardship, and respect for DoD's natural resources rather than something the federal

government maintains and is therefore "there for the taking." Leasing to hunting clubs would be a strategy for which there is much precedent.

It allows citizens to "buy into" the conservation of fish, wildlife, and other natural resources. This has happened with many private land owners, particularly in the South. Several military installations are large enough that parcels of land could be leased to various special interest groups and still have plenty of quality area available for general public as well as military personnel use.

100. Each of the applicable Service regulations were reviewed to identify policy pertaining to leasing and licensing lands for recreational purposes. Air Force Regulation 87-3, Real Property Management, 6 April 1984, page 4, paragraph i, states that to the maximum extent possible, the Installation Commander must make unoccupied land that meets the criteria for retention (AFR 87-22) available for public recreation, beautification, or for soil or wildlife conservation programs. Public access to military installations for the use and enjoyment of natural resource for hunting, fishing, and other outdoor recreation will be granted, except when it is found the overriding military mission specifically requires a temporary or permanent suspension of such use (AFR 126-1).

101. Air Force Regulation 34-4 governs private organizations (special interest groups which are not related to the Federal Government) and specifically addresses situations involving the use of Real Property. According to AFR 87-3, paragraph 42, private organizations's use of Air Force Real Property on an intermittent and/or nonexclusive basis may be authorized without charges; however, exclusive use of Real Property by private organizations will be at fair market value. For instance, private saddle riding clubs must be charged for use of Real Property, services (to include utilities) and for grazing and cropland activities through outleasing. The regulation also describes options for the leasing, licensing, acquiring of easements or permits of Air Force land but does not appear to specify terms relevant to recreational land use, except for land being leased for agriculture, grazing, or haying in which case the lessee may be required to support recreation, and welfare of fish and wildlife, beautification, and aesthetic programs, and the cost of establishing and

maintaining recreation, swimming, and fishing areas, wildlife habitats, food plots, and similar activities relevant to the installation Natural Resources Plan.

102. Army real estate policies are similar to those of the Air Force. Regulation 405-80, Real Estate, 1 February 1979, paragraph 1-3 provides for the Secretary of the Army to authorize the use of military real estate for commercial purposes, provided it promotes the national defense or is in the public interest and the property must not be needed at the time. Similar provisions for leases, licenses, easements, and permits are detailed. Appendix A, AR 405-80 describes use of military real estate for non-Army use. No reference is made to recreational uses except to cite right-of-way or easements for purposes to include dams and reservoirs in connection with fish and wildlife programs, fish hatcheries, and other improvements relating to fish culture.

103. The Navy's real estate policies contained in NAVFAC P-73, Vol.I provide assigned the Assistant Secretary of the Navy (Installations and Logistics) responsibility for the acquisition, construction, utilization, improvement, alteration, maintenance and disposal of real estate, and facilities. Authority is delegated by the Chief of Naval Operations (CNO) to the Commander, Naval Facilities Engineering Command (NAVFACENGCOM) and Engineering Field Division (EFD) personnel enable the granting of easements, leases, licenses, permits and similar interests in Navy property, when such use by others will not interfere with assigned military missions.

104. Agriculture and grazing leases are recognized by the Navy as a means of optimizing utilization of natural resources while minimizing maintenance funds which must otherwise be expended. Leases grant exclusive use to the lessee; whereas, a license only confers a privilege to occupy the premises. Licenses are more applicable to uses of Navy property by charitable, civic, or educational organizations, are relatively easily terminated. These are appropriate means for enabling public use of Navy property for recreational purposes because such use is usually of benefit to the Navy and is in the public interest. In addition to leases and licenses, the Navy engages in use agreements that are characterized by the lack of easy termination, the long-term requirement by the prospective tenant for the exclusive use of Navy-controlled real property and/or the expenditure by such tenant of

substantial amounts of funds, sometimes appropriated specifically for the proposed purpose. NAVFAC P-73, Vol. I is written broadly enough and contains sufficient details to be used in nearly any authorized situation, but nothing contained is suggestive, nor are examples given, for potential enhancement of public recreational opportunities.

105. A practical approach to using leases, licenses, and permits for increasing public access to DoD property for outdoor recreation lies in the DoD Air Installation Compatible Use Zone (AICUZ) program. AICUZ is a DoD program instituted in 1973 to help air installations meet the requirements for air safety and noise impact mandated by public law. It is in fact a sophisticated land use planning technique incorporating outdoor recreation as one of the compatible land use categories. Chicopit Point public park in Jacksonville, FL, is located within the Air Installation Compatible Use Zones at the Naval Air Station, Mayport. The Navy reportedly uses these techniques, leases and licenses, rather extensively, but not without some concern. Executive Order 12348, signed by President Reagan February 25, 1982, directs the General Services Administration (GSA) to conduct real property utilization surveys of federal property holdings. The thrust of the program is to identify excess federal land for sale to assist in reducing the national debt. The Navy and GSA do not always agree on whether particular land holding are excess. Although no Naval Air Stations have been impacted to date, the potential to declare some buffer zone lands (e.g. noise zones) excess is a very real threat.

106. DoD Directive 4700.4, (para. D-5) requires that installations shall maintain "Integrated Natural Resources Management Plans" (INRMP). Of the 204 responses to the 1992 DoD SCNRP question of whether installations have natural resources management plans, a total of 117 (57.3%) installations responded they had plans less than 5 years old, and 35 (17.1%) had plans greater than 5 years old. Nineteen (9.3%) said they were currently developing a plan. A total of 33 (16.1%) said they were either not developing a natural resource management plan or the question was not applicable to their situation.

107. The DoD Directive does not specify that outdoor recreation plans shall be part of the INRMP as it does for fish and wildlife management, and forest management. It states that when appropriate, outdoor recreation plans shall address inventories, trends, etc.

Although the difference here may be semantical, or an editorial oversight, it would appear that when there are sufficient forest, fish, and wildlife resources available to be addressed in the INRMP the same would hold true for outdoor recreation and therefore it should also be incorporated in the INRMP when appropriate. Outdoor recreation plans are essential elements of natural resources multiple use management and should not be excluded from such plans or treated separately; instead, they should be required, functional elements of INRMP's.

108. Lacey and Severinghaus (1982) developed an approach to outdoor recreation planning referred to as Recreation Opportunity Spectrum (ROS) applicable to integrated natural resources planning on military installations. It is conceptually based on a continuum of possible combinations of recreation activities, settings, and experiences divided into 6 classes of recreation opportunity. The approach is sensitive to environmental considerations (e.g. the availability of fish and wildlife, timber harvesting and military maneuvering and training requirements) and can be adapted to nearly any setting. Other positive aspects of the approach is that it is behaviorally based with respect to preference for activities and experience opportunities (i.e. demand), and recreation demand analysis is an integral part of the process. Although ROS was developed 10 years ago for Army recreation planners it is conceptually valid and a broader application by DoD natural resource planners could incorporate the latest computer technologies. This would establish it on the same level with other federal agencies involved in outdoor recreation planning.

109. The Integrated Training Area Management (ITAM) (Sobke, 1992) is an effective program being used at 53 Army and Marine Corps installations in inventorying, managing, and monitoring DoD natural resources. The computerized program combines satellite mapping and vegetation imaging, survey teams, special maneuver maps, species protection, and training programs. Elements include: (1) land condition-trend monitoring to determine training land capabilities and resource trends, (2) environmental awareness to encourage stewardship and wise tactical use of natural resources, (3) land rehabilitation and erosion control technologies to conserve resources and improve training realism, and (4) threatened/endangered species management.

110. One aspect of ITAM demonstrated during field investigations at Ft. Polk, LA, and Camp Shelby, MS, is the Geographic Resources Analysis Support System (GRASS). It is a GIS system that can be used to store, combine, analyze and display multiple landscape data quickly and easily. It is adaptive to intensive planning and management of forestry, grazing, habitats, and outdoor recreation activities. Installation personnel indicated that GRASS was one of the best tools available to land managers, and is used frequently. Other users include the U.S. Army Corps of Engineers Districts and Divisions, WES, the USDA Soil Conservation Service, and the NPS.

111. As an adjunct to ITAM the Army is developing an Environmental Compliance Assessment System (USA ECAS). Information on 17 assessment areas is included in a checklist (e.g. endangered species and natural resources). ECAS includes a synopsis, serving as a quick reference to readers, of applicable federal regulations, executive orders, DoD regulations, state/local regulations, Army regulations, key compliance requirements, and responsibility for compliance. No reference is made to DoD's Legacy program. It indicates that sites with recreation resources will be included in developing a Cooperative Plan Agreement for Outdoor Recreation in accordance with AR 215-2, and AR 420-74. Outdoor recreation programs are to be monitored for maintenance responsibilities, evaluations of off-road vehicles, fish and wildlife resources, and installation potential to support community recreation needs. Natural Resource Plans are to include appropriate sections on outdoor recreation. There is a need, however, for verification that outdoor recreation programs are supported by adequate educational materials and are effectively publicized and promoted through various media. There also could be an accounting of accessibility and participant eligibility in outdoor recreation programs.

Non-DoD Federal Land Management Agencies Policies

National Park Service

112. Of the federal land management policy manuals reviewed, the National Park Service (NPS) had what appeared to be the most concisely assembled set of policies in a single document (NPS 1988). In Chapter 8 they clearly define the agency's policies. This

section describes policies on visitor use including recreational activities, commercial activities, back country use, hunting and trapping, off-road vehicle use, snowmobiles, and accessibility for disabled persons. Included also are policies on visitor safety and protection, emergency preparedness and emergency operations, law enforcement, emergency medical services, fees and charges, recreation fees, reservation systems, aircraft use, Native American use, special park uses, special events, First Amendment activities, rights-of-way and other non-recreational uses such as for grazing, mineral development. There is also a description of the Park Service's Interpretation and Education Program including personal services, non-personal services and the media, cooperating associations, and the use of volunteers.

Bureau of Land Management

113. Title 43, CFR, Subpart 8000-General sets forth procedures for the administration of BLM recreation programs including cultural, resource management, natural history resource management, recreation management, visual resource management, wilderness management and environmental education and protection. DoD could potentially enhance the management of its lands if it developed a land classification system similar to BLM or the other federal land management agencies. For instance, BLM has lands classified as "Research Natural Areas," places whose primary purpose is for research and education because of unique natural resource characteristics such as outstanding geologic, soil or water features, threatened or endangered species of plant and animal life.

114. Part 8360-Visitor Services (BLM 1991) summarizes the BLM's policies on emergency services, interpretive services, resource and visitor protection and closures and restrictions. Applicable to management of DoD resources is Subpart 8365--Rules of Conduct. If DoD anticipates public use on a scale approximating that of the other major federal land management agencies similar rules of conduct would be necessary. Part 8370-Use Authorizations (BLM 1991) specifies different types of authorized uses of BLM lands including commercial, competitive, events, educational, and operator usage. Establishment of similar DoD user policy would have practical application for long range natural resources

planning and management purposes, daily operations and in dealing with legal issues particularly pertaining to liability. Each subpart to 43 CFR Ch. II (10-1-91 edition) is contained in a separate BLM manual.

Forest Service

115. Forest Service Manual (FSM) 2300 - Recreation, Wilderness and Related Resource Management describes the policies, rules, and regulations relative to the provision of recreational opportunities by the USFS. Like the manuals of the NPS and the BLM this contains a wide variety of detailed subject matter of potential applicability to the enhancement of DoD's Legacy program. A few are particularly noteworthy. First, Chapter 2311 describes USFS Resource Opportunities in Recreation Planning and provides additional information on the Recreation Opportunity Spectrum (ROS) system discussed earlier in this paper. Next, Chapter 2312 describes the USFS Recreation Information Management (RIM) system, which has been in use for years, and could have applicability to improving DoD's DEMIS system. Chapter 2340 describes USFS policies for issuing special-use permits authorizing state, county or municipal agencies to develop or manage recreation developments on USFS land. Chapter 2341, Planning for Private Sector Use and Chapter 2343 focus on Concession Uses Involving Privately Developed Facilities. The policies, guidelines, and procedures contained in both of these chapters could be useful in expansion of DoD's public use opportunities through avenues such as the AICUZ program discussed earlier. Chapter 2355, Off-Road Vehicle Use Management provides additional information useful to DoD efforts of implementing Executive Orders 11644 and 11989 discussed earlier.

U.S. Fish and Wildlife Service

116. The USFWS Administrative Manual was not reviewed in its entirety because it was unavailable, and was being revised. However, Chapter 2, Public Use was relevant. It described the USFWS program for public education on understanding and appreciating fish, wildlife, and wildlands ecology. In particular, it endeavors to enhance the public's understanding of natural resource management programs and ecological concepts, thus

enabling the public to: a) better understand the problems facing our wildlife/wildlands resources; b) realize what effect the public has on wildlife/wildlands resources; c) better understand the biological facts upon which USFWS management programs are based; and d) foster appreciation of why wildlife and wildlands are important to the public. These objectives are attained through a series of efforts aimed at educational assistance in outdoor classrooms, interpretation, and recreation. They are directed to individuals, private and professional organizations, and other government agencies. Specific strategies are used to meet each objective and user group. For example, regions and/or field stations contact schools or school districts within their immediate vicinity and notify them of the availability of study areas. Work is conducted with educational systems to develop environmental education materials at field stations that mesh with the current lesson plans in schools. Additionally, contact is made with local colleges or universities encouraging them to offer teacher training workshops for credit, and provide technical information and assistance in the design of field trips and other educational activities. Similar educational efforts would be consistent with the goals of Legacy if the installation-level resource personnel needed to carry out such functions were available. However, the shortage of qualified personnel to conduct some of the more fundamental functions of natural resources management is a topic of intense concern to installations.

Bureau of Reclamation

117. One of the BOR's main functions is the planning of water resources development and improvement of the management of existing water and land resources. Applicable procedures are contained in Reclamation Instructions (RI) Series 210 Land, Part 215 Land Management. The Bureau's FY 90 Annual Report states that most of BOR's land management program is accomplished through cooperative ventures with other federal, state, and local agencies who work in partnership in the daily operation of project land and water areas. About 90% of the 300 recreation areas on Reclamation projects are managed in this manner. Since 1989, handicapped access has been given priority; BOR has been actively involved in working with the disabled through the Physically-Challenged Access to the

Woods (PAW), a nonprofit corporation formed to provide outdoor recreation opportunities on public lands for persons with disabilities. BOR joined with the USFS, Boise Bench Lions Club, and the Alternate Mobility Adventure Seekers to form the first Chapter of PAW in the West. This partnership has led to accessible outdoor recreation facilities being constructed on public land throughout Idaho and elsewhere.

BOR's accessibility program is working to ensure that its activities and facilities are available to all users. One of the projects is the Planning for Accessibility Handbook (BOR 1988) which is being used nationwide as a resource for completing accessibility evaluations. Reclamation also developed a training program for use at PAW seminars. DoD's efforts to increase public access to its lands will require compliance with Public Buildings-Handicapped Persons (P.L. 88-578, 16 U.S.C. 460) and the Americans With Disabilities Act of 1990, (P. L. 101-336).

PART IV: SUMMARY AND CONCLUSIONS

Authority and Access

118. The broad purpose of this research was to examine the existing state of public access to military natural resources and, while being consistent with the goals of Legacy, to explore alternatives for increasing access. The study is limited by the small number of on-site field investigations made to military installations and the number of natural resource managers interviewed. While a number of opportunities have been identified offering potential for increased public access, it is realized that large increases cannot and should not take place "over night."

119. Existing Federal laws are for the most part sufficiently comprehensive to enable present use, and potentially increased public access to military installations for outdoor recreation, education, and natural resources awareness. However, the United States Congress should consider amending 10 U.S. Code, Section 2668 to permit the Service Secretaries to lease portions of DoD lands to non-profit organizations for organized outdoor recreation activities such as, hunting clubs, off-road recreation vehicle clubs, camping clubs, etc. Lack of coordination between the two Defense Department entities responsible for recreation programs, and natural resource management is suboptimizing the potential effectiveness of Legacy. Modification of DoD policy permitting public civilian usage of certain Morale, Welfare, and Recreation (MWR) facilities would contribute substantially to increased public use and awareness of DoD's vast and varied natural and cultural resources.

120. The use of off-road vehicles is an increasingly popular recreational activity of many American's. The desire of military personnel for this activity is no different than that of the general public. Use of off-road vehicles, is not getting much support at either the DoD, the Military Services, or installation levels. Perhaps this is out of concern for possible damage to natural resources. The best way to control the growing interest in the use of ORRV's is to have a program to control it. Sufficient technical information is available (Appendix A) that this activity could be more appropriately planned and substantially increased through proper management techniques and controls. Ft. Polk, LA, serves as one model of how this activity can be properly confined to specified areas, and controlled.

DoD's policy on ORRV's on military installations should be reviewed with consideration of adopting a more proactive position closer aligned with the intent of the pertinent Executive Orders. DoD could benefit by showing considerations beyond installation boundaries as a good community neighbor.

121. Most military installations have been fully or partially surveyed for possible increases of off-post civilian outdoor recreation, but the prevailing attitude among installation personnel who have the responsibility for accomplishing it is more negative than positive. Speculation on a reason for this attitude, is that it may relate to the need for further clarification and reinforcement of congressional policy on public use. It also may be reflective of implications increased use would have on inadequate installation staffing.

122. If DoD were to open installations to more public access it could encounter the same legal problems experienced by the USFS and the BLM regarding access rights through bordering private properties. Because of national security concerns, in many if not most instances there is no reason why increased public use could not be controlled through a few well-monitored points. Other special access arrangements could be made on particular and predictable pieces of land. Nevertheless, some installations are so large that complete control of public access could involve a problem by visitors gaining access through bordering private properties. This is an issue that needs addressing prior to increasing public access on some DoD properties.

Resources and Activities

123. It is difficult to determine how much DoD land is available for outdoor recreation. Estimated amounts vary among different sources. DoD 1988 DEMIS data indicated 10,803,801 acres were available for hunting and fishing, and 9,537,498 acres for other outdoor recreation. Spinks (1991) indicated 10,728,546 acres were open or partially open to the general public for hunting and fishing. The 1992 SCNRP sample of 204 installations indicated 3,495,123 acres were available for hunting and fishing, and 9,537,498 for other outdoor recreation. The total amount available may not be as important as the indication that over half of its installations appear to have enough fish and wildlife resources

to sustain expanded outdoor recreation programs. Twenty-three installations have the resources, but no outdoor recreation programs. According to natural resource managers, they are often short of the qualified personnel needed to conduct programs and activities.

124. While DoD policy specifies there should be equity through impartial procedures for determining public access to its natural resources, its military installations are not applying the policy uniformly. By comparison to the military community, the general public apparently has the least amount of access to DoD natural resources, particularly for hunting and fishing. Lack of consistency in installation practices of admitting the public is prevalent and needs changing.

125. In addition to clarification of DoD and Service policy on public access there is need for more guidance and criteria for use by local commanders in making policy decisions on access and use of installation natural resources and facilities. A comprehensive review of personnel staffing requirements and funding at all levels is needed to support natural resources management programs envisioned by the Congress, DoD and the Services.

126. Legacy goals of establishing educational/awareness programs, and increasing public access to military installations may be in conflict with GAO policy emphasis on retention of areas and facilities mainly as required to support military missions. This apparently is causing some installations to be reluctant in developing projects that have the appearance of catering too much to the public. This situation, if uncorrected, could diminish the impact and effectiveness of Legacy.

Mandated Access

127. Cooperation between military installations and state fish and game agencies is mostly very good. One hundred thirty-four (134) cooperative agreements reportedly exist. A few problems were reported, most of which appear related to the need for improved communications. Cooperation with the USFWS in establishing and carrying out Sikes Act agreements is even better; one hundred one (101) projects are in place.

Native American Access

128. DoD, Military Service and installation policies on Native American access to military installations for purposes of outdoor recreation, hunting, fishing, and gathering activities are sparse to non-existent. Other federal land management agencies either have or are in the process of developing applicable policy that could be very useful to similar DoD undertakings. Native Americans have special access needs and rights to military lands that should be acknowledged and assured through DoD policy. A few military installations are forging ahead with Native American programs that could serve as examples of DoD-wide enhancement of natural and cultural resources management programs. Legislative obstacles exist concerning direct, non-competitive contracting with Native American tribes for work in installation natural resources management programs. The Native American Fish and Wildlife Society could be instrumental in fostering more cooperating and better communications between DoD natural resource managers and Native American tribes.

Public Awareness, Public Relations, Education, and User Information

129. There is a great need for improved public awareness, public relations, educational and user information programs concerning DoD natural resource management programs. Unfortunately, there is no well defined program or procedures for accomplishing this important task. Natural resource managers are fully occupied with management of natural resources and have little time or resources needed for conducting comprehensive, cohesive public awareness, relations, education and user information programs. Perhaps interpretive and educational specialists should be added to installation natural resource staffs, especially at larger installations. An alternative would be to hire interpretive and educational specialists covering clusters of closely associated installations such as in the Washington, DC. area. Fortunately there are some good secondary sources of user information existing that could be more useful through expanded and increased distribution. There is no single approach that covers all of these related but distinct functions in natural resources management. Research is needed on identifying approaches for interacting more effectively with local "publics." Numerous non-military special interest groups are available for

assisting installations with natural resources management, conservation, publicity, education, and public awareness initiatives. Local research and establishment of information management systems, of the type proposed in this report for Eglin AFB, are essential for successful programs of this nature.

Legal Liabilities

130. Legal liabilities for personal injury to members of the public engaged in recreation on a military installation is covered under the Federal Tort Claims Act. The federal government has the same legal liability as a private individual. However, protection from negligence is provided under the concept of discretionary function immunity where certain criteria are met. In some instances state statutes influence court decisions involving claims against the federal government. It is unclear at this juncture of the extent to which there would be a real increase in liability exposure to the military with increased public access to its resources; however there are measures that can be taken to minimize the likelihood of personal injuries, litigation, and liability. For instance, the rationale for plans and decisions enabling increased public access should be documented in advance. This should include measures taken or not taken to insure public safety. Adherence to professional standards and codes of conduct, awareness, and utilization of the best methods and equipment, and use of competent caring personnel, along with the maintenance of relevant records and forms, will minimize injuries, litigation, and liability.

Conceptual Frameworks

131. The Chesapeake Bay Area Action Plan, a comprehensive guide for public access to a major multi-state natural resource, is the most informative source of information on a regional approach to providing public access to a large natural resource. DoD could use this model in areas with concentrations of military installations near abundant natural resources. This would be a major accomplishment worthy of Legacy support. Opportunities for DoD to increase use of its land and natural resources through existing real property planning and management regulations (i.e., AFR 87-3, AFR 34-4, AR 405-80, and

NAVFAC P-73) are described and examples are given where this has been successfully accomplished. The DoD and Services have several well developed natural resources management and enhancement programs in place, such as AICUZ, INRMP, ITAM, and ECAS that could be more broadly applied to the benefit of Legacy.

Non-DoD Federal Management Policies

132. A review of management policies of the other major federal land management agencies is provided. NPS policies pertaining to off-road vehicle use, snowmobiles, accessibility for disabled persons, visitor safety and protection, emergency preparedness and emergency operations, law enforcement, emergency medical services, fees and charges, and special park uses and events are worthy of consideration by DoD in formulating similar policies. The NPS interpretation and education program could serve as a model for structuring similar DoD programs. BLM's management policies and land classification system have features worthy of adoption by DoD. BLM's classification of authorized resource uses also could provide insight to development of a similar DoD system. If DoD would utilize the USFS ROS system more widely this could establish it on the same level with other federal land management agencies involved in outdoor recreation planning. Incorporation of USFS RIM system features could improve DoD's DEMIS. DoD application of USFWS approaches to public education could advance Legacy goals. Any formulation of DoD policy on Native American access should involve thorough review of existing NPS, BLM, USFS policies on the topic and especially that being drafted by the USFWS. The policy being formulated by the USFWS provides guidance on many situations likely needing attention by DoD. DoD use of approaches similar to those used by BOR for providing handicapped people access to natural and cultural resources could enhance the goals of legacy and reflect favorably on DoD.

PART V: RECOMMENDATIONS

Authority and Access

133. More coordination in formulation of DoD policy pertaining to outdoor recreation should take place between the Office of the Deputy Assistant Secretary of Defense (Personnel, Families, Education and Safety) and the Deputy Assistant Secretary of Defense (Environment). The DoD Directive on Morale, Welfare, and Recreation (MWR) Programs and Nonappropriated Funds (NAFS) should be revised permitting non-DoD civilians usage of outdoor recreation facilities such as marinas, campgrounds, parks, and other facilities on a space available basis, to facilitate increased public usage of DoD natural resources. The changes should be reflected in revisions to DoD Directive 4700.4, Natural Resources Management Program.

134. More support should be given at all levels for increased access to DoD natural resources through a well planned and coordinated off-road vehicle program using technology referenced in Appendix A and information obtainable on similar programs through the other Federal land management agencies.

135. The purpose, goals, and objectives of Legacy need more publicity and promotion within DoD to improve attitudes among installation level DoD personnel, and their supervisors, toward increased public inclusion in DoD outdoor recreation programs and activities. If the Department of Defense decides to increase substantially public access to its natural and cultural resources it should first review the problems encountered by the USFS and the BLM concerning public access rights through bordering private properties.

Resources and Activities

136. Improved methods of documenting and reporting the amount of acreage existing under direct DoD control and indirect control through other federal land management agencies should be implemented. Outdoor recreation programs should be developed at installations that have none and programs should be increased at installations that have the capacity for expansion.

137. Existing DoD policy on determining public access through impartial procedures should be enforced, and all installation policies, practices, and procedures for permitting public access to DoD natural resources should be made consistent. Public use and access plans should be required elements of the Integrated Natural Resources Management Plan of each DoD installation.

138. Installation commanders should be provided improved DoD and Services criteria, information and/or guidance for making policy decisions when local questions or issues arise concerning public access to installation natural resources.

139. The potential conflict between Legacy goals and U.S. GAO emphasis on limiting areas and facilities to military mission support should be reviewed and resolved.

Mandated Access

140. The Department of Defense should maintain agreements with the USFWS, and potentially increase Sikes Act agreements. The Military Services should continue working effectively with states. Installations should improve communications with state fish and game departments concerning access to natural resources and increase agreements for management, conservation, and harvesting of fish and game resources.

Native American Access and Issues

141. DoD should develop and implement policies regarding Native American access to military installations for outdoor recreation, traditional cultural, and subsistence purposes. Legacy demonstration projects involving cooperative efforts between Native Americans and management or improvement of DoD natural resources should be undertaken. Legislative obstacles concerning direct, non-competitive contracting with Native American tribes for work in DoD natural resources management programs should be alleviated. Possible alternatives for accomplishing this would be: (a) amend the Competition in Contracting Act to give an exemption to it for contracts with Indian tribes in or near the reservation and allow military installations to negotiate contracts directly with local tribes, or (b) create a

"set aside program" through the Small Business Administration similar to that contained in the Buy Indian Act.

Public Awareness, Public Relations, Education, and User Information

142. DoD should establish a comprehensive public awareness, public relations, education, and user information system for natural resources. The program should strive to educate the public on its efforts concerning natural resources. The full range of resources and conditions for decisions should be identified. It should also promote the distribution of Spinks (1991) and Crawford (1992) for increasing public, as well as military and DoD civilian personnel awareness and access to natural resources and outdoor recreation programs. DoD should assist in the promotion and distribution of the Chesapeake Bay and Susquehanna Public Access Guide (1989). Military installations should be encouraged to submit applications for recognition of exemplary natural resources programs and projects to Renew America's Environmental Success Index. Fazio and Gilbert (1986) should be made available to all DoD natural resource managers to use as a guide in formulating local programs. DoD should seek to have appropriate public, military, and DoD civilian-related user questions included in the National Survey of Fishing, Hunting, and Wildlife Associated Recreation conducted periodically by the USFS. DoD should either establish its own database like LEAP (1990) or take leadership in establishing a database that would also serve the needs of other federal land management agencies. Installations should work more actively with organizations like Ducks Unlimited, Trout Unlimited, Pheasants Unlimited, Whitetails Unlimited, Wildlife Trust of North America, Nature Conservancy, National Wild Turkey Federation, National Wildlife Federation, Wildlife Management Institute, USFS and the Native American Fish and Wildlife Society to improve, promote and publicize natural resources management programs. Research, public awareness, and education should be supported and conducted.

Legal Liabilities

143. Natural resources users safety should receive priority consideration and be addressed at the DoD, Service, and installation levels. Clear operational details in Department policy and guidelines need to be established in advance of increases in public use. Policies on emergency services, resource and visitor protection, and closures and restrictions need to be developed. A permanent DoD natural resources user safety policy board should be formed. One of the board's functions should be to review prior accidents and those that happen periodically to plan for whatever precautions are deemed appropriate and necessary to prevent or minimize recurrences. Operational guidelines need to be developed for detecting and responding to emergency situations involving natural resources users. Personnel working at natural resources field levels should be certified through the American Red Cross in standard first aid and adult cardiopulmonary resuscitation (CPR). Safety standards consistent with good safety practices and law should be devised and followed. Advance policy decisions need to be made indicating the rationale for when to warn users of situations, and when to institute safety precautions. Safety hazards should be minimized. Natural resource users should be warned against safety hazards and dangerous situations by using effective communications methods. Natural resource managers should be trained on the Federal Tort Claims Act and the provisions and conditions for discretionary functional immunity from liability. It is recommended that Koslowski's (1993) Federal Recreation Liability Video Series be used as a training aid for people being trained in liability matters concerning recreation on federal property.

Conceptual Frameworks

144. DoD leadership in initiating public access plans and guides like the Chesapeake Bay Area Action Plan in other nationally suitable locations would be a very worthwhile Legacy endeavor. The Military Services should become much more active in utilizing real property planning and management regulations for making property available to local public and private agencies for increasing outdoor recreation. Within DoD and the Military Services there are many good natural resources management related programs, such as

AICUZ, ITAM, ECAS and INRMP and ROS that should be utilized more pervasively to the advantage of LEGACY.

Non-DoD Federal Management Policies

145. DoD, the Military Services, and installations should work more closely with other federal land management agencies to improve natural resources management programs on military installations. Establishment of a policy formulation/coordination committee between DoD and the major federal land management agencies should be established during this transitional period of DoD policy formulation.

PART VI: REFERENCES

- Boyd, B.M. and Dove, J.C. 1980. "A Hierarchy of Criteria for Use by Commanders Concerned With Joint Use of Military Recreational Facilities," Document No. ADA030327, National Technical Information Service, Springfield, VA.
- Briuer, F.L. and Hebler, G.A. 1992. "Department of Defense, Directory of Native American Consultation (Draft)," U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.
- Briuer, F.L., Feezor, B., DesOrmeaux, N.A. 1992. "Native American Consultation; A Review of Federal Agency Policies (Final Report)," U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.
- Carter, J. 1977 (May). "Off-Road Vehicles on Public Lands." Executive Order 11989, Washington, DC.
- Cheney, R.B. 1989 (Oct 10). "Memorandum for Secretaries of the Military Departments, Subject: Environmental Management Policy," Department of Defense, Washington, DC.
- Commonwealth of Virginia. 1989. "Chesapeake Bay & Susquehanna Public Access Guide," Virginia Department of Conservation and Historic Resources, Division of Planning and Recreation Services. Richmond, VA.
- Coggins, G.C. and Wilkinson, C.F. 1987. Federal Public Land and Resources Law. The Foundation Press Inc., Mineola, NY.
- Council on Environmental Quality. 1989. "Defense Lands and Installations in Environmental Quality, Annual Report, 1987-1988," Washington, DC.
- Crawford, W.R. 1992. Military RV, Camping & Rec Areas. Military Living Publications, Falls Church, VA.
- Department of the Air Force. 1984 (Apr). "Real Property Management, Granting Temporary Use of Real Property," AF Regulation 87-3, Headquarters U.S. Air Force, Washington, DC.
- _____. 1987. "Personnel Services, Private Organizations on Air Force Installations," A.F. Regulation 34-4, Headquarters U.S. Air Force, Washington, DC.
- _____. 1988 (Oct). "Natural Resources, Conservation and Management of Natural Resources," AF Regulation 126-1, Headquarters U.S. Air Force, Washington, DC.

Department of the Army. 1979 (Feb). "Real Estate, Granting Use of Real Estate," Army Regulation 405-80, Headquarters Department of the Army, Washington, DC.

_____. 1986 (Feb). "Natural Resources--Land, Forest, and Wildlife Management," Army Regulation 420-74, Headquarters Department of the Army, Washington, DC.

_____. 1991 (Jan). "Environmental Compliance System (USA ECAS)," Document No. AD-A243544, National Technical Information Service, Springfield, VA.

_____. 1991 (Mar). "Integrated Training Area Management Fact Sheet," Corps of Engineers Construction Engineering Research Laboratory, Champaign, IL.

_____. 1992. "Legacy Program Survey of Cultural and Natural Resources Programs," Corps of Engineers Construction Engineering Research Laboratory Contract #: DACA88-90-D-0045, Order #: 0023, Champaign, IL.

Department of Defense. 1985 (May). "Operational Policies for Morale, Welfare, and Recreation Programs (MWR) Activities," DoD Instruction 1015.2, DASD (Personnel, Families, Education and Safety), Washington, DC.

_____. 1986. "Defense Environmental Management System," Office of the Secretary of Defense, DASD (Environment), Deputy for Natural Resources, Washington, DC.

_____. 1989 (Jan). "Natural Resources Management Program," DoD Directive 4700.4, DASD (Environment), Washington, DC.

_____. 1991 (Sept). "Legacy Resource Management Program," Army Construction Engineering Research Laboratory, Champaign, IL.

Department of the Navy. "Real Estate Procedural Manual, Volume I," NAVFAC P-73, Naval Facilities Engineering Command, Alexandria, VA.

_____. "Real Estate Operations and Natural Resources Management Procedural Manual, Volume II," NAVFAC P-73, Naval Facilities Engineering Command, Alexandria VA.

_____. 1990 (Oct). "Environmental and Natural Resources Program Manual," OPNAVINST 5090.1A, Office of the Chief of Naval Operations, Washington, DC.

Fazio, J. R. and Gilbert, D.I. 1986. Public Relations and Communications for Natural Resource Managers, 2d ed., Kendall/Hunt Publishing Company. Dubuque, IA.

- Hart, S. 1992 (Nov 13). Personal Communication, Office of the Staff Judge Advocate, Fort Lewis, WA.
- Heitmeyer, M. 1992 (May 6). Personal Correspondence, "Ducks Unlimited Projects on DoD Lands," Ducks Unlimited, Inc., Chicago, IL.
- Hemple, D. 1992 (Oct 8). Personal Communication, Bureau of Land Management, Washington, DC.
- Jacobson, S.K. 1992 (Aug). "Public Education and Information Program for Natural Resource Management at Eglin Air Force Base," A Proposal to the Natural Resources Branch, Eglin Air Force Base, FL. Conservation Education and Natural Resource Management Program, University of Florida, Gainesville, FL.
- Jerbic, C. 1992 (Nov 2). Personal Communication, Ft. Lewis, WA.
- International Snowmobile Industry Association. 1992. "U.S. Snowmobile Sales 1971-1992," Fairfax, VA.
- Keystone Center. 1989 (Mar). "The Keystone Center Policy Dialogue on Access to Federal Lands Final Report," Keystone, CO.
- Koslowski, J.C. 1983. "Law Review I, A Study of Selected Legal Issues as They Relate to the Park and Recreation Profession," National Recreation and Park Association, Alexandria, VA.
- _____. 1992 (May 15). Personal Communication, National Recreation and Park Association, Alexandria, VA.
- _____. 1993. "Federal Recreation Video Series," National Recreation and Park Association, Arlington, VA.
- Kraft, A.S. and Rankin, J.S. 1982. The Law of Parks Recreation Resources, and Leisure Services. Brighton Publishing Company, Salt Lake City, UT.
- Lacey, R. M., and Severinghaus, W. D. 1982 (Mar). "Application of the Recreation Opportunity Spectrum for Outdoor Recreation Planning on Army Installations," Technical Report N-124, National Technical Information Service, Springfield, VA.
- Siehl, G.H. 1991. "Natural Resource Issues in National Defense Programs," Library of Congress, Congressional Research Service, Washington, DC.

- _____. 1991 (Oct). "Natural Resources in National Defense Programs," Library of Congress, Congressional Research Service, Washington, DC.
- Motorcycle Industry Council, Inc. 1991 (Sept) "Motorcycle Statistical Annual," Irvine, CA.
- National Wildlife Federation. 1992. Conservation Directory. Washington, DC.
- Neumann, L., and other authorities. 1991 (Dec). "Defending Our Heritage," Preliminary Working Report to the Cultural Resources Program Development Task Area, CEHP Incorporated, Washington, DC.
- Nixon, R. 1972 (Feb 8). "Use of Off-Road Vehicles on the Public Lands," Executive Order 11644, Washington, DC.
- Owens, J. E. 1985. "An Overview of Compatible Use Planning Techniques for Military Air Installations," NTIS No. AD-A159019/9. National Technical Information Service, Springfield, VA.
- Reagan, R. 1982. (Feb 15). "Federal Real Property," Executive Order 12348, Washington, DC.
- Renew America. 1992. "Environmental Success Index," Washington, DC.
- Rennicke, J. 1991 (Jan). "Hallowed Ground: A Hiker's Guide to Sacred Sites in the United States," Outside Business Magazine. Mariah Publications Corporation, Chicago, IL.
- Report of the President's Commission. 1987. "Americans Outdoors, The Legacy, The Challenge," Island Press, Washington, DC.
- Sobke, J. F. 1992 (Jul/Aug). "Defense, DoD Diversifies Conservation Strategies, Special Report on DoD and The Environment," Department of Defense. American Forces Information Service, Alexandria, VA.
- Spinks, J. L. 1991. Hunting and Fishing Military Lands. Stackpole Books, Harrisburg, PA.
- United States Congress. 1986 (Mar). "Recreation on Private Lands, Issues and Opportunities," A Workshop Convened by Task Force on Recreation on Private Lands. Dirksen Senate Office Building, Washington, DC.
- _____. 1988. "Indian Self-Determination Act," United States Code of Federal Regulations, Title 25-Indians, Chapter 14, U.S. Government Printing Office, Washington, DC.

- _____. 1988. "Outdoor Recreation Programs," United States Code of Federal Regulations, Title 16-Conservation, Chapter 1, U.S. Government Printing Office, Washington, DC.
- _____. 1988. "Conservation Programs on Military Installations," United States Code of Federal Regulations, Title 16-Conservation, Chapter 5C, U.S. Government Printing Office, Washington, DC.
- _____. 1988. "Hunting, Fishing and Trapping on Military Lands," United States Code of Federal Regulations, Title 10-Armed Forces, Chapter 159, U.S. Government Printing Office, Washington, DC.
- _____. 1988. "Congressional Defense Procurement Policy," United States Code of Federal Regulations, Title 10-Armed Forces, Chapter 137, U.S. Government Printing Office, Washington, DC.
- _____. 1989. "Native American Church," United States Code of Federal Regulations, Title 21-Food and Drugs, Chapter 2, U.S. Government Printing Office, Washington, DC.
- _____. 1989. "Resource Protection, Public Use and Recreation," United States Code of Federal Regulations, Title 36-Parks, Forests and Public Property, Chapter 1, U.S. Government Printing Office, Washington, DC.
- _____. 1990 (Jan). "Military Use of Public Lands," House Committee on Interior and Insular Affairs, Subcommittee on National Parks and Public Lands, Oversight Hearing, 101st Cong., 2d Sess, U.S. Government Printing Office, Washington, DC.
- _____. 1991. "Recreation Programs," United States Code of Federal Regulations, Title 43-Public Lands Interior, Subpart 8000-General, U.S. Government Printing Office, Washington, DC.
- _____. 1991. "DoD Defense Appropriations Act," P.L. 101-511, Section 8120 (Legacy Resource Management Program), U.S. Government Printing Office, Washington, DC.
- U.S. Department of Agriculture, Forest Service. 1991 (Jul). "Evaluating and Documenting Traditional Cultural Properties, National Registration Criteria Considerations," Cultural Resource Management Bulletin 38, Washington, DC.
- United States General Accounting Office. 1981 (Nov). "Report to the Congress of the United States, DoD Can Increase Revenues Through Better Use of Natural Resources it Holds in Trust," Washington, DC.

- _____. 1992. "Inadequate Public Access to Federal Lands," GAO/RCED 92-116BR, Washington, DC.
- U.S. Department of the Interior, Bureau of Land Management. 1990 (Jan). "Native Americans and Consultation," Management Manual-Subject 8160, Washington, DC.
- _____. Bureau of Land Management. 1991 (Oct). "A Plan to Educate Young Americans About Their Nation's Rich Cultural Heritage," Washington, DC.
- _____. National Park Service. 1987 (Sept). "Native American Relationships Management Policy; Final Management Report," Federal Register. Vol 52, No. 183, Washington, DC.
- _____. National Park Service. 1988. "Management Policies," Washington, DC.
- _____. National Park Service. 1990. "Listing of Education in Archeological Programs," The LEAP Clearinghouse, Washington, DC.
- _____. Bureau of Reclamation. 85th Annual Report. Washington, DC.
- _____. Bureau of Reclamation. 1989. "Planning for Accessibility Handbook," Washington, DC.
- _____. Fish and Wildlife Service. 1988 (Nov). "1985 National Survey of Fishing, Hunting, and Wildlife Associated Recreation," Washington, DC.
- U.S. Marine Corps. 1991 (Sept). "Environmental Compliance and Protection Manual," Marine Corps Order P5090.2, Headquarters U. S. Marine Corps, Washington, DC.
- Virginia Department of Conservation and Historic Resources. 1989. "Chesapeake Bay and Susquehanna River Public Access Guide," Richmond, VA.

APPENDIX A
OFF ROAD RECREATION VEHICLE (ORRV) EVALUATION
AND PLANNING REPORTS

- Lacey, R.M., Severinghaus, W.D. 1981 (Oct). "Evaluation of Lands for Off-Road Recreation Four-Wheel Drive Vehicle Use," Technical Report No. CERL-TR-N-110, National Technical Information Service, Springfield, VA.
- Lacey, R.M., Balbach, H.E., Baran, R.S., Graff, R.G. 1980 (Nov). "Evaluation of Areas for Off-Road Recreational Motorcycle Use Volume I: Evaluation Method," Technical Report No. CERL-TR-N-86-VOL-1, National Technical Information Service, Springfield, VA.
- Lacey, R.M., Baran, R.S., Severinghaus, W.D., Hunt, J.D. 1981 (May). "Evaluation of Lands for Recreational Snowmobile Use," Technical Report No. CERL-TR-N-105, National Technical Information Service, Springfield, Va.
- Lacey, R.M., Goettel, R.G., Balbach, H.E., Severinghaus, W.D. 1982 (Jul). "Planning for Off-Road Recreational Vehicle Use on Army Installations," Technical Report CERL-TR-N-132, National Technical Information Service, Springfield, Va.

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE September 1993	3. REPORT TYPE AND DATES COVERED Final report		
4. TITLE AND SUBTITLE Final Report: Education, Public Access, and Outdoor Recreation		5. FUNDING NUMBERS		
6. AUTHOR(S) Walter H. Bumgardner		7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) School of Human Performance and Recreation University of Southern Mississippi Hattiesburg, MS 39406-5142		
8. PERFORMING ORGANIZATION REPORT NUMBER		9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Department of Defense, Office of the Deputy Assistant Secretary of Defense for the Environment, Washington, DC 22202; U.S. Army Engineer Waterways Experiment Station Environmental Laboratory, 3909 Halls Ferry Road Vicksburg, MS 39180-6199		
10. SPONSORING/MONITORING AGENCY REPORT NUMBER Contract Report EL-93-3		11. SUPPLEMENTARY NOTES Available from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.		
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.		12b. DISTRIBUTION CODE		
13. ABSTRACT (Maximum 200 words) This report represents the completion of a research project for the U.S. Army Engineer Waterways Experiment Station on developing an understanding of and framework for educational, public access, and recreation programs that affect public appreciation, awareness, and support for the Department of Defense (DoD) Legacy Resource Management Program. Although DoD is making progress on many environmental issues, increasing public education, access, and use of its programs poses a dubious challenge. With few noted exceptions, Federal laws generally appear sufficient to enable DoD to meet Legacy public access goals. Public access through bordering private properties could result in legal problems. This problem should be addressed prior to increases in public access. A natural resources user safety policy board should be established to develop policies and plans for preventing natural resources user accidents. Use of off-road recreation vehicles (ORRV) is not getting much support at any level of DoD or the Armed Services. Sources of information are identified for establishing effective ORRV programs. DoD policy for determining public access through impartial means is not being uniformly applied. Existing DoD policy should be enforced. Legacy goals of establishing educational/awareness programs and increasing public access to military installations may be in conflict with General Accounting Office emphasis (Continued)				
14. SUBJECT TERMS Access Cultural resources management Department of Defense		15. NUMBER OF PAGES 74		16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT	

13. (Concluded).

on retention of areas and facilities mainly as required to support military missions. This issue needs resolving for Legacy to meet its full potential. Cooperation with other Federal and State natural resource management agencies was found to be mostly good. DoD should work more closely with other Federal and State natural resources and management agencies to improve its programs. DoD lacks a comprehensive policy on Native American access to natural and cultural resources, and that should be established as soon as possible. There is need for improved public awareness, public relations, educational, and user information programs. To meet Legacy's public access goals, improvement is needed in the coordination of natural resources and recreation facility user policies between the Office of the Deputy Assistant Secretary of Defense (DASD) (Environment) and DASD (Personnel, Families, Education, and Safety).